SOCIAL SKILLS TRAINING IN AN INTEGRATED PRESCHOOL PROGRAM

by

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Abstract

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This study investigated the efficacy of a commercially-available social skills training program plus classroom reinforcement for use with developmentally delayed preschoolers. Three groups of students (total n=58) received either the combined treatment package, classroom reinforcement of target behavior only, or no treatment. Significant increases in sharing behavior were found for the combined treatment of social skills training plus classroom reinforcement over those obtained by both no-treatment controls and participants receiving reinforcement of classroom behavior alone. Participants in the combined treatment group and those receiving reinforcement of target behaviors alone displayed significantly higher teacher-rated social skills and more being in a group behavior than no-treatment controls. Classroom reinforcement of target behavior maintained the social gains obtained with the combined treatment. Both classroom teachers and participants viewed the social skills interventions favorably.

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Chapter I

Introduction

Prior to 1975, special needs students were routinely excluded from receiving a public school education. The introduction of P.L.-94-142 in 1975, later known as the Individuals with Disabilities Education Act (1990, IDEA 34 C.F.R. § 300.110- 300.123) mandated a free, appropriate public education in the least restrictive environment for all developmentally delayed children. IDEA-Part B defines children (between birth through 21) with disabilities as meeting criteria in one of 13 categories following an evaluation in accordance with law. The 13 categories are: 1) Autism, 2) Deaf, 3) Deaf-Blind, 4) Hard of Hearing, 5) Mentally Retarded, 6) Multihandicapped, 7) Orthopedically Impaired, 8) Other Health Impaired, 9) Serious Emotionally Disturbed, 10) Specific Learning Disability, 11) Speech or Language Impaired, 12) Traumatic Brain Injury, and 13) Visually Impaired.

In 1993, Part 200 of IDEA was updated by the New York State Education Department to include a noncategorical classification for preschool students, "preschool student with a disability", defined as children who "exhibit a significant delay or disorder in one or more functional areas related to cognitive, language and communicative, adaptive, social-emotional or motor development which adversely affect the students' ability to learn" (New York State Education Department, p. 3,

1993). Evaluation methods and criteria for classification are also described in this update.

For students classified as developmentally delayed under IDEA, a free, appropriate public education means a special education which is defined as "specially designed instruction, at no cost to parents, to meet the unique needs of children with disabilities " (34 C.F.R. § 333.17). Reynolds (1989) describes the history of special education as one of progressively including special education and regular education students in the same classroom. Since the passage of P.L.-94-142, and its reauthorization as IDEA, the continuum of educational options for students with special needs has moved from segregated settings to less restrictive integrated placements (Fuchs & Fuchs, 1993). A recent Executive Summary issued by the New York State Education Department reports that 37.2% of preschool students with disabilities were served with nondisabled students in integrated settings in 1996-97 compared to 26.6% in 1994-95 (Gloeckler, 1998). In 1992 nationwide, it was estimated that 34% of developmentally delayed students were being educated in mainstream settings (Bronson, Hauser-Cram, & Warfield, 1995). Mainstreaming as described by Madden & Slavin (1983) is "the placement of students with academic and physical handicaps in regular schools and classrooms" (p. 519).

Inclusive education is an expansion of mainstreaming that was defined by the Michigan Department of Education as, "the provision of educational services, for all students with disabilities, in schools where nondisabled peers attend, in age appropriate classes, under the supervision of regular education teachers with support from special education teachers and support personnel" (p.4 Sosnowsky, 1990).

Many factors have contributed to the inclusive education movement including the development of advocacy groups for the developmentally delayed and both federal and state education budgetary pressures to decrease the costs associated with special education (Shanker, 1994). In addition, during the last 20 years, considerable criticism has been lodged against questionable diagnostic procedures and placement decisions used for students with special needs (Reynolds, 1989). The unreliability within the educational system of implementing classification criteria and placement of students with special needs in separate classrooms (Glass, 1983), coupled with a lack of evidence to support the efficacy of special education programs, has lead to the exploration of alternative educational options for special needs students such as mainstreaming and inclusion.

Three factors postulated to contribute to the inclusive education movement were identified by Jenkins, Odom, and Speltz (1989): 1) legal, 2) moral, and 3) educational. These authors suggest that the educational benefits of inclusion can be subsumed by the other two factors, given that

no harm comes to students educated in integrated settings with delayed students. In fact, studies conducted over that past 15 years have reported no ill effects for students, whether regular or delayed, educated in integrated settings. A synthesis of two meta-analyses found small to moderate educational and social benefits for students with disabilities in integrated settings when compared to students in segregated settings (Baker, Wang, & Walberg, 1995; Madden & Slavin, 1983).

The importance of social skills for childrens' emotional development, academic performance, and future social adjustment has been well documented. Studies have found that children who fail to develop adequate social skills may be at risk for rejection by peers, academic failure, and social isolation (Coie & Dodge, 1983; Farington, 1986; Guralnick, 1990; & Parker, & Asher, 1987). Developmentally delayed preschool children display limited social interaction skills compared to their typically developing peers (Spicuzza, McConnell, & Odom, 1991; Strain, 1983) and have a smaller repertoire of effective strategies to implement when interacting with other children (Guralnick, 1992). An underlying premise of inclusion is the presumed acquisition of age appropriate skills through imitation of developmentally advanced peers (Bricker, 1978; Peterson & Haralick, 1977). This assumption, however, has come under scrutiny, particularly as it applies to the acquisition of social skills for the developmentally delayed youngster. While there is some evidence for

small gains in the social outcomes for students with disabilities (Baker et al., 1995; Edmister & Ekstrand, 1985; Guralnick, 1988), Gresham (1982) and others (Jenkins et al., 1989; Odom & Strain, 1984) argue that placement alone is inadequate to ensure the acquisition of appropriate social skills.

Students with developmental delays often lag behind their nondisabled peers in the development of social skills and are deficient in the prerequisite skills needed to acquire age appropriate social behaviors exhibited by their nondisabled peers (Cooke & Apolloni, 1978; Guralnick & Weinhouse, 1984; Odom & McEvoy, 1988). Based on Modeling Theory (Bandura, 1977), four skills are necessary for imitation: 1) attention to the model, 2) retention of the modeled behavior, 3) capacity to motorically perform the behavior, and 4) motivation to perform the behavior. It is evident that many students with disabilities display deficits in some or all of these skills, thereby reducing the effectiveness of exposure to age appropriate models. Therefore, simply placing special needs students into placements with typically developing peers will not ensure appropriate acquisition of social behaviors (Bronson et al., 1995; Cooke & Apolloni, 1976;). Specific skill training is required to ensure acquisition of social skills by developmentally delayed students.

Overall, social skills training has been found to be an effective method of increasing the social skills of children (McConnell, Sisson, Cort

& Strain, 1991). For example, Beelmann, Pfingsten, and Losel (1994) reviewed 49 studies on social competence training conducted between 1981 and 1990 and found an overall moderate effect size for all treatments combined. These studies included behavioral, social problem solving, and perspective taking interventions.

Curriculum-based social skills training is economical and efficient. It can address the social delays of several children simultaneously within the context of the classroom, the children's natural environment (McAllister, 1991; Odom & Strain, 1984). Social skills training in the classroom is compatible with the inclusive model of educating developmentally delayed students in the least restrictive placement. A social skills curriculum can be readily embedded into the regular preschool classroom and implemented by either regular or special education teachers. Social skills training programs that use behavioral techniques and employ a non-aversive and proactive approach are more likely to be effective than programs using diffuse methods (Beelman et al., 1994; McAllister, 1991).

The evaluation of generalization and maintenance of social skills interventions is complex and closely related to the function of the targeted behaviors selected for treatment (Moore, 1994). An analysis of generalization effects found to be most effective for social skills training includes the selection of peer initiations and sharing as target behaviors and the use of prompting and positive reinforcement (Chandler, Lubeck, &

Fowler, 1992). There is also evidence to suggest that social skills reinforced during a variety of regular classroom activities generalize to other settings more readily than isolated interventions (Storey, Danko, Ashworth, & Strain, 1994).

According to the results of a recent survey, most early childhood special education teachers report a great need for social interaction interventions for their students but indicate that few formal curricula or intervention programs are available (Odom, McConnell, & McEvoy, 1992). In an effort to tease out the factors that might impede the transfer of research into practice, Odom, McConnell, and Chandler (1993) surveyed teachers on the acceptability, feasibility, and current use of social competence training. Social competence refers to children's overall effectiveness and appropriateness in a given social situation. Social skills are generally considered a component of social competence. Odom et al., (1993) found that most early childhood special education teachers consider, on average, 74% of their students to be in need of social competence interventions (range = 2-100%), therefore indicating high acceptability. Some of the most commonly endorsed interventions considered to be feasible for the classroom included teaching social skills to children and praising individuals and groups for the use of social skills.

This study examined a short-term group intervention to address the need for a social skills program for developmentally delayed preschool

children. Taking Part, Introducing Social Skills to Children (Cartledge & Kleefeld, 1991) is a commercially available curriculum designed to increase the social interaction behaviors of preschool children. Unlike social skills training programs studied in previous research, this curriculum was developed for use in both regular education and mainstreamed settings. In addition, in contrast to other programs, specific items from the Social Skills Rating System (SSRS, Gresham & Elliott, 1990) that are covered in the curriculum are listed in the Taking Part (Cartledge & Kleefeld, 1991) manual. The Social Skills Rating System has been evaluated as the most comprehensive social skills assessment instrument and praised for its usefulness in targeting and evaluating interventions (Demaray et al., 1995).

The definition of social skills advanced by Gresham & Elliott (1984) was used for this study. This definition coincides with the definition used in the Social Skills Rating System (SSRS, Gresham & Elliott, 1990) and Taking Part (Cartledge & Kleefeld, 1991). Social skills are defined as "...socially acceptable learned behaviors that enable a person to interact effectively with others and to avoid socially unacceptable responses" (SSRS, Gresham & Elliot, 1990, p.1).

Behaviorally defined target behaviors were selected from Taking Part (Cartledge & Kleefeld, 1991) following a review of the current literature (Caldarella & Merrell, 1997). Numerous studies have found deficits for

social interactions (Bronson et al., 1995; Faught, Balleweg, Crow, & Van Den Pol, 1983; Hanline, 1985) and peer entry skills (Guralnick, 1992) for preschool students with disabilities. McConnell (1987) discusses the issue of entrapment effects in relation to social skills training. Entrapment, how behavior comes under the control of natural consequences, is a desirable outcome for social skills training programs. McConnell suggests including behaviors for training, such as sharing, that will create a natural reinforcement loop. He gives the following relevant example, " If positive interaction and reciprocated sharing serve as reinforcers for the child, sharing is likely to become entrapped: The likelihood of future share offers by the child is thus increased by exposure to naturally occurring social behaviors of others " (p. 253). Based on the literature review, two skills from the unit on "Cooperating with Peers" in Taking Part (Cartledge & Kleefeld, 1991) were selected for this research: Being in a Group and Sharing Materials. These two skills are prerequisites for more sophisticated social interactions and can be easily reinforced by natural social consequences in the classroom (Gresham & Elliott, 1990). Behavioral observations were used to measure the target behaviors of Being in a Group and Sharing before and after social skills intervention.

This study investigated whether an available curriculum could be used to increase the social skills of developmentally delayed students to participate in a group and share materials. Modeling, rehearsal, and

reinforcement were used to teach social skills in small, structured settings to the developmentally delayed students. It was anticipated that students who received both social skills training and reinforcement for target behaviors would achieve significantly higher SSRS-T scores and display significantly more target behaviors than students receiving reinforcement for target behaviors alone and students in a no-treatment control group.

CHAPTER II

Developmental Disabilities

Brief History of Developmental Disabilities

Developmental disability is a broad term used to describe a physical or mental condition that obstructs the development of skills in a particular area or in several areas such as speech, cognition, socialization, or motor functioning (Pueschel, Bernier, & Weidenman, 1988, p. 3). The term developmental disability has been used interchangeably with other labels such as mental retardation to classify students for special education since the passage of P.L.-94-142 in 1975. Infants and preschool-aged students are typically labeled as developmentally delayed rather than as mentally retarded or as having any of the other 13 IDEA handicapping conditions. This is because limitations of evaluation instruments and diagnostic methods and rapid changes in the development of the young child make differential diagnoses at an early age often difficult and unreliable.

In New York State, eligibility for special education is determined by performance on a comprehensive assessment, which includes standardized testing. Preschool aged children qualify as developmentally delayed and are classified as a Preschool Student with a Disability (PSWD) if they meet criteria in one of several ways. As stated in Part 200 (p. 4 & 5) "Eligibility as a preschool student with a disability shall be based on the results of an individual evaluation which is provided in the student's

dominant language, not dependent on a single procedure, and administered by a multidisciplinary team in accordance with all other requirements as described in section 200.4(B)(1) through (4) of this Part."

> Commencing July 1, 1993, to be identified as having a disability a preschool student shall either:
>
> (i) exhibit a significant delay or disorder in one or more functional areas related to cognitive, language and communicative, adaptive, social-emotional or motor development which adversely affects the student's ability to learn. Such delay or disorder shall be documented by the results of the individual evaluation which includes, but is not limited to, information in all functional areas obtained from a structured observation of a student's performance and behavior, a parental interview and other individually administered assessment procedures, and, when reviewed in combination and compared to accepted milestones for child development, indicate:
>
> (a) a 12-month delay in one or more functional area(s), or,
>
> (b) a 33 percent delay in one functional area, or a 25 percent delay in each of two functional areas, or,
>
> (c) if appropriate standardized instruments are individually administered in the evaluation process, a score of 2.0 standard

deviations below the mean in one functional area, or a score of 1.5 standard deviations below the mean in each of two functional areas; (ii) meet the criteria set forth in paragraphs (1), (2), (3), (5), (9), (10), (12), or (13) of subdivision (mm) of this section.

Diagnostic Categorization of Delayed Children

Although a diagnosis using the Diagnostic and Statistical Manual of Mental Disorders-fourth edition (DSM-IV; American Psychiatric Association (APA), 1994); is not required for placement in preschool special education, DSM-IV classifications can provide valuable descriptive information. Therefore, students participating in this study were diagnosed using the DSM-IV. The following DSM-IV categories reflect the range of potential classifications that students meeting eligibility criteria for preschool special education may receive: 1) Mental Retardation, 2) Communication Disorders, 3) Pervasive Developmental Disorders and, 4) Attention Deficit and Disruptive Behavior Disorders. Each category is reviewed below including a brief history of the disorder, epidemiological data, and criteria for diagnosis from the DSM-IV. Learning Disorders, which include Reading Disorder, Mathematics Disorder, Disorder of Written Expression, and Developmental Coordination Disorder, were not included in this review because they either do not apply to preschool aged children, or do not reflect the characteristics of children eligible for preschool special education.

Mental Retardation

Mental Retardation is characterized by significantly below average intelligence (typically an IQ of 70 or less) and marked deficits in at least two areas of adaptive functioning. Intellectual functioning is determined by intellectual testing using standardized, individually administered intelligence tests. One of the earliest accounts of mental retardation was found in a manuscript dating back to 1552 BC. It was not until the mid-1800's that physicians began to show interest in the mentally retarded and to train them. There were no distinctions made between subtypes of mental retardation. The terms idiot, feeble minded and cretin were popular descriptors at that time. In 1877, the first efforts were made to distinguish between mental retardation subtypes by John L. Down. In France two physicians, Binet and Simon developed a psychometric test to screen children for special education. This test was later used in the United States to diagnose mental retardation. It was not until the 1950's that attitudes toward the mentally retarded began to change. A group of parents organized the National Association of Retarded Children. Finally, in 1963 a national program was launched to establish services for the mentally retarded and increase research efforts (Bregman & Harris, 1995).

Estimating the incidence and prevalence rates for mental retardation is difficult and complicated by the variability in diagnostic criteria and terminology that is used. Mental retardation has been conceptualized in

three ways using statistical, pathological, and social systems models. Similar prevalence rates have been found across studies using these three conceptualizations and are consistent at just below 1 percent. Therefore, based on that rate, approximately 2.5 million Americans would be diagnosed as mentally retarded. Typically, the most severe forms of mental retardation are diagnosed during the preschool years, and less severe, or milder degrees during middle childhood. Boys have a higher incidence rate than girls, although boys may be identified more often due to higher rates of disruptive behavior. Mild mental retardation is associated with substandard socioeconomic factors such as a lack of adequate educational opportunities. Life expectancy estimates for mentally retarded individuals are lower than the general population and are associated with the severity of mental retardation. Hearing and visual impairments, cerebral palsy, and other medical conditions are also associated with mental retardation (Bregman & Harris, 1995).

Diagnostic Criteria for Mental Retardation

A. Significantly subaverage intellectual functioning: an IQ of approximately 70 or below on an individually administered IQ test (for infants, a clinical judgement of significantly subaverage intellectual functioning).

B. Concurrent deficits or impairment in present adaptive functioning (i.e., the person's effectiveness in meeting the standards expected for his or her age by his or her cultural group) in at least two of the following

areas, communication, self-care, home living, social/interpersonal skills, work, leisure, health and safety.

The DSM-IV identifies four subtypes of mental retardation, and a classification of severity unspecified. The four types are;

317 Mild Mental Retardation: IQ level 50-55 to approximately 70

318.0 Moderate Mental Retardation: IQ level 35-40 to 50-55

318.1 Severe Mental Retardation: IQ level 20-25 to 35-40

319 Profound Mental Retardation: IQ level below 20

319 Mental Retardation, Severity Unspecified: When there is strong presumption of Mental Retardation but the person's intelligence is untestable by standard tests (DSM-IV; APA, 1994, p.46).

Communication Disorders

Communication Disorders include Expressive Language Disorder, Mixed Receptive-Expressive Disorder, Phonological Disorder, Stuttering, and Communication Disorder Not Otherwise Specified. The inclusion of Communication Disorders in the DSM-IV was controversial. Professionals, including speech and language pathologists, disagreed with the classification of communication disorders as a psychiatric condition. However, the inclusion of this category was justified by a broad definition of mental disorder used in the DSM-IV and knowledge regarding the development of comorbid psychiatric disorders (Baker & Cantwell, 1995).

Expressive Language Disorder is characterized by deficits in vocabulary, grammar, and productivity. Disorders of expressive language generally fall into one of two categories: acquired disorders and developmental disorders. Typically, acquired disorders are diagnosed in adults, while developmental disorders are seen in children. Expressive language disorders of either acquired or developmental types are categories used to describe deficits on a continuum. Historically, the DSM-III (APA, 1980) and DSM-III-R (APA, 1987) focused exclusively on the developmental type of expressive language disorder. Little distinction was made between the expressive and receptive types in the DSM-III. The DSM-III-R included two types of developmental language disorders, expressive and receptive types. The most current edition, the DSM-IV includes Expressive Language Disorder, Mixed Receptive-Expressive Language Disorder, Phonological Disorder, Stuttering, and Communication Disorder Not Otherwise Specified (Baker & Cantwell, 1995).

The diagnostic features of an Expressive Language Disorder must be established by scores on standardized testing. The age of the individual, particularly that of a child, must be kept in mind when making a diagnosis as developmental expectations vary with age. It is common for children with Expressive Language Disorder to exhibit characteristics of a Phonological Disorder. Other associated disorders include dysfluency and irregularities in speech rate. It is estimated that between 3%-5% of

children exhibit a developmental Disorder of Expressive Language, but far fewer present with the acquired type. The developmental type is generally identified by 3 years of age. It is three times more common in males than females. Roughly half of the children who develop an Expressive Language Disorder continue to experience language problems into adolescence. For the developmental type, there is evidence of a familial pattern (APA, 1994).

Diagnostic criteria for 315.31 Expressive Language Disorder

A. The scores obtained from standardized individually administered measures of expressive language development are substantially below those obtained from standardized measures of both nonverbal intellectual capacity and receptive language development. The disturbance may be manifest clinically by symptoms that include having a markedly limited vocabulary, making errors in tense, or having difficulty recalling words or producing sentences with developmentally appropriate length or complexity.

B. The difficulties with expressive language interfere with academic or occupational achievement or with social communication.

C. Criteria are not met for Mixed Receptive-Expressive Language Disorder or a Pervasive Developmental Disorder.

D. If Mental Retardation, a speech-motor or sensory deficit, or environmental deprivation is present, the language difficulties are in

excess of those usually associated with these problems (DSM-IV; APA, 1994, p. 58).

A Mixed Receptive-Expressive Language Disorder is characterized by deficits in both receptive and expressive language. Receptive language includes but is not limited to understanding of words and sentences. There may also be difficulty in the understanding of specific classes of words. Typically, this disorder can be distinguished from an Expressive Language Disorder by the addition of a deficit in comprehension. This disorder can be more difficult than an Expressive Language Disorder to identify in young children. The child may present as inattentive to the speaker; unable to hear, or appear puzzled when spoken to. Mixed Receptive-Expressive Language Disorder therefore is generally not identified without a formal evaluation (Baker & Cantwell, 1995).

The history of Receptive-Expressive Language Disorder can be traced to references in medical texts as early as the 1800's. The early work conducted by physicians sought to find similarities between children with expressive and receptive deficits and adults with acquired language disorders. Terms like infantile aphasia were used to describe children with a Receptive-Expressive Language Disorder. Developmental psychologists began to study language disorders in children in the 1900's. Unlike the study of acquired language disorders that focused on the loss of language, developmental psychologists were interested in the reason language did

not develop. Hosts of terms were used including congenital word deafness, and congenital auditory imperception. Researchers today place emphasis on describing children's linguistic behaviors. Terms in use today include language disability and delayed language. The DSM-III did not provide a separate classification for Mixed Receptive-Expressive Language Disorder, and used the general terms Developmental Language Disorder. The DSM-III-R (APA, 1980) modified the broad classification of the DSM-III (APA, 1987) and separated the two disorders into Expressive Language Disorder, and Receptive Language Disorder. Although the DSM-III-R encouraged clinicians to use both diagnoses if present, one classification was often overlooked. Therefore, with the introduction of the DSM-IV, an additional category was added, namely Receptive-Expressive Language Disorder. Another change in the DSM-IV (APA, 1994) was the removal of the terms developmental and acquired to describe the disorder. This new coding system has been criticized for limiting important information. Different clinical features are known to be associated with each disorder, and by eliminating the distinction, useful information may be lost.

The cause of most forms of Mixed Receptive-Expressive Language Disorder is unknown, with a few exceptions where neurological damage is evident. Most current theories regarding the etiology of this disorder concentrate on brain dominance and neurological abnormalities. There is some evidence from recent research indicating abnormal left hemisphere

functioning in children with language disorders. The diagnosis of a Receptive-Expressive Language Disorder must be made within the context of the child's culture and knowledge of exposure to multiple languages and bilingual issues (Baker & Cantwell, 1995).

The developmental type of Receptive-Expressive Language Disorder is more common in males than females. It is estimated to occur in approximately 3% of the school-aged population, and is usually identified by the age of 4. A familial pattern has been found with first-degree biological relatives (APA, 1994).

Diagnostic Criteria for 315.3 Mixed Receptive-Expressive Language Disorder

A. The scores obtained from a battery of standardized individually administered measures of both receptive and expressive language development are substantially below those obtained from standardized measures of nonverbal intellectual capacity. Symptoms include those for Expressive Language Disorder as well as difficulty understanding words, sentences, or specific types of words, such as spatial terms.
B. The difficulties with receptive and expressive language significantly interfere with academic or occupational achievement or with social communication.
C. Criteria are not met for a Pervasive Developmental Disorder.

If Mental Retardation, a speech-motor or sensory deficit, or environmental deprivation is present, the language difficulties are in excess of those usually associated with these problems (DSM-IV; APA, 1994, pp. 60-61).

A Phonological Disorder is characterized by the inability to produce speech sounds at an age expected level. The most common productions involve the sounds l, r, s, z th, and ch. This disorder also includes lisps and the order in which sounds are produced in a syllable. As with other types of communication disorders, the clinician must consider the cultural and linguistic background of the child, as well as any bilingual exposure when making a diagnosis (Baker & Cantwell, 1995).

This disorder is more common in males, and accounts for approximately 2% to 3% of 6 and 7 year olds with a communication disorder. By the age of 17, the prevalence rate drops to less than 1%. In some instances, particularly mild cases, children may recover spontaneously. In severe cases, the child cannot be understood by family members. There is some evidence for a familial pattern with this disorder (APA, 1994).

Diagnostic criteria for 315.39 Phonological Disorder

A. A failure to use developmentally expected speech sounds that are appropriate for age and dialect (e.g., errors in sound production, use, representation, or organization such as, but not limited to, substitutions

of one sound for another [use of/t/ for target/k/ sound] or omissions of sounds such as final consonants).

B. The difficulties in speech sound production interfere with academic or occupational achievement or with social communication.

C. If Mental Retardation, a speech-motor or sensory deficit, or environmental deprivation is present, the speech difficulties are in excess of those usually associated with these problems (DSM-IV; APA, 1994, p.63).

Stuttering can be characterized by an irregular fluency and time patterning of speech that is inconsistent with developmental expectations. It includes repetitions and elongation of sounds and/or syllables, broken words, or words produced with great physical tension. Other physical movements such as tics or head jerking may accompany the stuttering. Stuttering has been associated with both Phonological and Expressive Language Disorders.

Stuttering is more common in males, and occurs in approximately 1% of prepubertal children, this rate decreases however to roughly .08% in adolescence. Most children are diagnosed by the age of 10. Early on in the course of the disorder, the individual may not be aware of the stuttering. As many as 80% of individuals recover from stuttering, with 60% of them recovering spontaneously. There is evidence for a familial pattern in stuttering (APA, 1994).

Diagnostic criteria for 307.0 Stuttering

A. Disturbance in the normal fluency and time patterning of speech (inappropriate for the individual's age), characterized by frequent occurrences of one or more of the following:

   (1) sound and syllable repetitions

   (2) sound prolongations

   (3) injections

   (4) broken words (e.g., pauses within a word)

   (5) audible or silent blocking (filled or unfilled pauses in speech)

   (6) circumlocutions (word substitutions to avoid problematic words)

   (7) words produced with an excess of physical tension

   (8) monosyllabic whole-word repetitions (e.g., " I-I-I-I see him")

B. The disturbance in fluency interferes with academic or occupational achievement or with social communication.

C. If a speech-motor or sensory deficit is present, the speech difficulties are in excess of those usually associated with these problems.

307.0 Communication Disorder Not Otherwise Specified

This category is for disorders in communication that do not meet criteria for any specific Communication Disorder; for example, a voice disorder (i.e., an abnormality of vocal pitch, loudness, quality, tone or resonance) (DSM-IV; APA, 1994, p.65).

Pervasive Developmental Disorders

Pervasive Developmental Disorders include Autistic Disorder, Rett's Disorder, Childhood Disintegrative Disorder, Asperger's Disorder, and Pervasive Developmental Disorder Not otherwise Specified. The essential features of Pervasive Developmental Disorders include diminished functioning in socialization, communication, and stereotyped and preservative behavior (Harris, Glasberg & Ricca, 1996).

The history of Pervasive Developmental Disorders can be traced to a paper by Leo Kanner in 1943 detailing the characteristics of Autism. He described social and communicative deficits, a need for sameness, and fixation on objects and pictures rather than people. The characteristics of the disorder were present from birth, and distinct from schizophrenia and mental deficiency. In fact many of these children had average and above average intelligence. Autism was considered an emotional disorder caused by poor parenting, or what became known as "refrigerator mothers". Not long after the theory on Autism was introduced, evidence began to accumulate suggesting an organic rather than psychogenic cause. It took several years before this idea was fully embraced, and the disorder continued to receive labels such as childhood schizophrenia and atypical personality disorder. The DSM-II (APA, 1968) included the diagnoses of schizophrenic reaction, childhood type, and schizophrenia, childhood type. The DSM-III (APA, 1980) was the first to include the

category of infantile autism under the new category of Pervasive Developmental Disorders. With the publication of the DSM-III-R (APA, 1987), Pervasive Developmental Disorders were moved to Axis II disorders and only two categories remained, Autistic Disorder and Pervasive Developmental Disorder not otherwise specified. The criteria in DSM-III-R were less stringent, leading to higher rates of autistic diagnoses. Based on field trials conducted prior to the publication of the DSM-IV (APA, 1994), Autistic Disorder was moved to Axis I, with age of onset before 3 years. Several new categories were added to the Pervasive Developmental Disorders category: Rett's Disorder, Childhood Disintegrative Disorder, and Asperger's Disorder (Campbell & Shay, 1995).

It is estimated that roughly 75% of children diagnosed with Autism are also Mentally Retarded. Cognitive development is often characterized by splintered performance with some skills considerably higher and some much lower than age expectancies. There may also be an atypical pattern of learning such that expressive language development may be higher than receptive language. Many children diagnosed with Autism exhibit behavior problems such as hyperactivity, self-injurious behavior, and limited attention span. Heightened or depressed sensory responsiveness may be evident that includes touch, and sound. Food aversions, sleep irregularities, and inappropriate emotional responsiveness may be present (APA, 1994).

Autism is estimated to occur in approximately 2-5 cases per 10,000. Onset is before 3 years of age, and some parents report concerns about social interactions much earlier on. Some children reportedly developed normally until one or two years of age. A small percentage of individuals diagnosed with Autistic Disorder live independently in their adult years. About on third will develop at least some degree of independence. There is a higher rate of Autistic Disorder among siblings, therefore a familial pattern has been found (APA, 1994).

Diagnostic criteria for 299.00 Autistic Disorder

A. A total of six (or more) items from (1), (2), and (3), with at least two from (1), and one each from (2) and (3):

(1) qualitative impairment in social interaction, as manifested by at least two of the following:

(a) marked impairment in the use of multiple nonverbal behavior such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction

(b) failure to develop peer relationships appropriate to development level

(c) a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g., by a lack of showing, bringing, or pointing out objects of interest)

(d) lack of social or emotional reciprocity

2) qualitative impairments in communication as manifested by at least one of the following:

(a) delay in, or total lack of, the development of spoken language (not accompanied by an attempt to compensate through alternative modes of communication such as gesture or mime)

(b) in individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others

(c) stereotyped and repetitive use of language or idiosyncratic language

(d) lack of varied, spontaneous make-believe play or social imitative play appropriate to developmental level

3) restricted repetitive and stereotyped patterns of behavior, interests, and activities, as manifested by at least one of the following:

(a) encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus

(b) apparently inflexible adherence to specific, nonfunctional routines or rituals

(c) stereotyped and repetitive motor mannerisms (e.g., hand or

finger flapping or twisting, or complex whole-body movement

(d) persistent preoccupation with parts of objects

B. Delays or abnormal functioning in at least one of the following areas, with onset prior to age 3 years: (1) social interaction, (2) language as used in social communication, or (3) symbolic or imaginative play.

C. The disturbance is not better accounted for by Rett's Disorder or Childhood Disintegrative Disorder (DSM-IV; APA, 1994, pp. 70-71).

Rett's Disorder is characterized by normal development after birth followed by the development of deficits in many specific areas. Between 5 and 48 months, there is a deceleration in head growth, a loss of motor skills, and development of stereotypical hand movements that resemble hand washing/wringing. There are also significant deficits in communication and psychomotor functioning. The disorder often occurs along with Profound Mental Retardation and is associated with higher rates of seizure disorders and abnormal brain activity. Rett's Disorder is not as prevalent as Autistic Disorder, and has been diagnosed only in females (APA, 1994).

Diagnostic criteria for 299.9- Rett's Disorder

A. All of the following:

(1) apparently normal prenatal and perinatal development

(2) apparently normal psychomotor development through the first 5 months after birth

(3) normal head circumference at birth

B. Onset of all the following after the period of normal development:

(1) deceleration of head growth between ages 5 and 48 months

(2) loss of previously acquired purposeful hand skills between ages 5 and 30 months with the subsequent development of stereotyped hand movement (e.g., hand-wringing and or hand washing)

(3) loss of social engagement early in the course (although often social interaction develops later)

(4) appearance of poorly coordinated gait or trunk movements

(5) severely impaired expressive and receptive language development with severe psychomotor retardation (DSM-IV: APA, 1994, pp. 72-73).

Childhood Disintegrative Disorder is characterized by at least 2 years of normal development followed by regression in various functional skills. It is often combined with severe Mental Retardation, and although the cause is not known, atypical neurological signs may be seen. Childhood Disintegrative Disorder is a very rare disorder, less prevalent than autism. There is some evidence of higher rates among males (APA, 1994).

Diagnostic criteria for 299.10 Childhood Disintegrative Disorder

A. Apparently normal development for at least the first 2 years after birth as manifested by the presence of age-appropriate verbal and nonverbal communication, social relationships, play, and adaptive behavior.

B. Clinically significant loss of previously acquired skills (before age 10 years) in at least two of the following areas:

(1) expressive or receptive language

(2) social skills or adaptive behavior

(3) bowel or bladder control

(4) play

(5) motor skills

C. Abnormalities of functioning in at least two of the following areas:

(1) qualitative impairment in social interaction (e.g., impairment in nonverbal behaviors, failure to develop peer relationships, lack of social or emotional reciprocity)

(2) qualitative impairments in communication (e.g., delay or lack of spoken language, inability to initiate or sustain a conversation, stereotyped and repetitive use of language, lack of varied make-believe play)

(3) restricted, repetitive, and stereotyped patterns of behavior, interest, and activities, including motor stereotypies and mannerisms

D. The disturbance is not better accounted for by another specific Pervasive Developmental disorder or by Schizophrenia (DSM-IV; APA, 1994, pp. 74-75)

Asperger's Disorder is characterized by significant disturbance in social functioning and the onset of repetitive behavior patterns, interests, and activities. Cognitive and adaptive skills are typically age appropriate. Motor functioning however may be delayed or impaired. Prevalence data are scarce, but it seems to be more common in males. It also tends to be more common among family members (APA, 1994).

Diagnostic criteria for 299.80 Asperger's Disorder

A. Qualitative impairment in social interaction, as manifested by at least two of the following:

(1) marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction

(2) failure to develop peer relationships appropriate to developmental level

(3) a lack of spontaneous seeking to share enjoyment, interests, or achievement with other people (e.g., by a lack of showing, bringing, or pointing out objects of interest to other people)

(4) lack of social or emotional reciprocity

B. Restricted repetitive and stereotyped patterns of behavior, interest,

and activities, as manifested by at least on of the following:

(1) encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus

(2) apparently inflexible adherence to specific, nonfunctional routines or rituals

(3) stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)

(4) persistent preoccupation with parts of objects

C. The disturbance causes clinically significant impairment in social, occupational, or other important areas of functioning.

D. There is no clinically significant general delay in language (e.g., single words used by age 2 years, communicative phrases used by age 3 years).

E. There is no clinically significant delay in cognitive development or in the development of age-appropriate self-help skills, adaptive behavior (other than in social interaction), and curiosity about the environment in childhood.

F. Criteria are not met for another specific Pervasive Developmental Disorder or Schizophrenia.

299.80 Pervasive Developmental Disorder Not Otherwise Specified (Including Atypical Autism)

This category should be used when there is a severe and pervasive impairment in the development of reciprocal social interaction or verbal and nonverbal communication skills, or when stereotyped behavior, interests, and activities are present, but the criteria are not met for a specific Pervasive Developmental Disorder, Schizophrenia, Schizotypal Personality Disorder, or Avoidant Personality Disorder. For example, this category includes "atypical autism:

--presentations that do not meet the criteria for Autistic Disorder because of late age at onset, atypical symptomatology, or subthreshold symptomatology, or all of these (DSM-IV, APA, 1994, p. 77).

Attention Deficit/Hyperactivity Disorder

Characteristics of Attention-Deficit/Hyperactivity Disorder include inattention and hyperactivity-impulsivity that fall beyond what would be expected for a child of similar age. The inattention component may appear in academic, occupational, or social interactions. Hyperactivity may been seen as fidgetiness, constant movement, and inordinate amounts of jumping or running where it may not be appropriate to do so. Impulsivity is evidenced by marked difficulty in delaying responses, waiting turn, interrupting, or intruding in conversations. It is also characterized by a failure to listen to directions, and a predisposition toward accidents due to impulsivity (Arnold & Jensen, 1995).

References in the literature to an Attention-Deficit/Hyperactivity type Disorder can be found as early as the 19th century with a patient description of "Fidgety Phil." Over the past few decades, this disorder has received many different labels, although the underlying symptoms appear remarkably stable. Initially considered to be a symptom of some type of "Minimal Brain Damage," a term also used to describe the disorder, supporting evidence on brain pathology was not found. The term was modified to "Minimal Brain Dysfunction," although other terms such as hyperactive impulse disorder and hyperactive child syndrome were also used. The first major change in the conceptualization of the disorder was introduced with the publication of the DSM-III (APA, 1980). Rather than placing primary emphasis on overactivity, the DSM-III considered inattention to be the over arching symptom, and thus the term attention-deficit disorder emerged. Symptoms were grouped into three categories. For a diagnosis, children had to meet several symptoms in each of 2 or 3 of the groupings. With the introduction of the DSM-III-R (APA, 1987), conceptualization of the disorder changed again with a return of emphasis on overactivity. Symptoms were reorganized to form one list of 14 items. Criteria for classification were met if the student exhibited 8 of the 14 symptoms. The chronic nature of symptoms was held constant throughout all versions of the DSM, as well as onset of symptoms by the age of 7 years. The DSM-IV (APA, 1994) classification of Attention

Deficit/Hyperactivity Disorder is more similar to the DSM-III, than to the DSM-III-R. A distinction was made between the inattentive and other symptom clusters in the DSM-IV. Three categories are available; 1) Predominantly Inattentive Type, 2) Predominantly Hyperactive-Impulsive type and, 3) Combined type (Arnold & Jensen, 1995).

Attention Deficit/Hyperactivity Disorder is difficult to diagnose in very young children because of normal fluctuations in child behavior in that age group. Symptoms of Attention Deficit/Hyperactivity Disorder have been found across cultures, with higher rates in Western countries likely due to differences in diagnostic procedures. Attention Deficit/Hyperactivity Disorder accounts for a high percentage of referrals to child guidance clinics. It has been found to co-occur with Oppositional Defiant Disorder, Conduct Disorder, Learning Disorder, Communication Disorders, and Anxiety Disorders. There is also some evidence to suggest higher rates in populations exposed prenatally to drugs, children with histories of neglect and or abuse, and high lead levels among others. There are no clear physical features associated with this disorder. Attention Deficit/Hyperactivity Disorder is much more common in males than females (4:1 ratio). It is estimated that this disorder impacts as many as 3%-5% of school-aged children. A familial link for first-degree biological family members has been found. The diagnosis of Attention Deficit/Hyperactivity Disorder is often made during the early school years. In some instances

symptoms persist into adulthood, although for many, symptoms decline during adolescence (APA, 1994).

Diagnostic criteria for Attention Deficit/Hyperactivity Disorder

A. Either (1) or (2):

(1) six (or more) of the following symptoms of inattention have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

Inattention

(a) often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities

(b) often has difficulty sustaining attention in tasks or play activities

(c) often does not seem to listen when spoken to directly

(d) often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions)

(e) often has difficulty organizing tasks and activities

(f) often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)

(g) often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books or tools)

(h) is often easily distracted by extraneous stimuli

(i) is often forgetful in daily activities

(2) six (or more) of the following symptoms of hyperactivity-impulsivity have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level.

Hyperactivity

(a) often fidgets with hands or feet or squirms in seat

(b) often leaves seat in classroom or in other situations in which remaining seated is expected

(c) often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)

(d) often has difficulty playing or engaging in leisure activities quietly

(e) is often "on the go" or often acts as if "driven by a motor"

(f) often talks excessively

Impulsivity

(g) often blurts out answers before questions have been completed

(h) often has difficulty awaiting turn

(i) often interrupts or intrudes on others (e.g., butts into conversations or games)

B. Some hyperactive-impulsive or inattentive symptoms that caused impairment were present before age 7 years.

C. Some impairment from the symptoms is present in two or more settings (e.g., at school [or work] and at home).

D. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.

E. The symptoms do not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and are not better accounted for by another mental disorder (e.g., Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder).

Code based on type:

314.01 Attention Deficit/Hyperactivity Disorder, Combined Type: if both Criteria A1 and A2 are met for the past 6 months

314.00 Attention Deficit/Hyperactivity Disorder, Predominantly Inattentive Type: if Criterion A1 is met but Criterion A2 is not met for the past 6 months

314.00 Attention Deficit/Hyperactivity Disorder, Predominantly Hyperactive-Impulsive Type: if Criterion A2 is met but Criterion A1 in not met for the past 6 months

314.9 Attention Deficit/Hyperactivity Disorder Not Otherwise Specified

This category is for disorders with prominent symptoms of inattention or hyperactivity—impulsivity that do not meet criteria for Attention Deficit/Hyperactivity Disorder (DSM-IV; APA, 1994, pp. 83-85).

Conduct Disorder

Conduct Disorder is characterized by behavior that violates the basic rights of others, or societal rules for that age group. Children with this disorder often initiate aggressive acts, violate rules, and destroy others' property.

The interest in antisocial behaviors as a psychiatric condition can be traced back to the 19th century when attempts were made to find a link between neuroanatomical defects and criminal behavior. It was not until 1980 that Conduct Disorder, along with other childhood psychiatric disorders was included in the DSM-III (APA, 1980). DSM-II (APA, 1968) included three conduct disorder categories: unsocialized aggressive reactions of childhood or adolescence; runaway reaction of childhood; and group delinquent reaction of childhood. The DSM-III differentiated between types of Conduct Disorder: socialized vs. undersocialized; and aggressive vs. nonaggressive. The 1987 revision (DSM-III-R) revised the categories to three: solitary aggressive, group type, and undifferentiated. The DSM-IV distinguishes between two types of Conduct Disorder; Childhood-Onset Type, and Adolescent-Onset Type. The Childhood-Onset type may be

used for preschool aged students and therefore this subtype will be reviewed.

Children diagnosed with Conduct Disorder often lack empathy, and demonstrate little regard for others. Feelings of guilt and remorse may be absent. Self-esteem may be compromised. There is a tendency toward high-risk behaviors including early sexual behavior, drug and alcohol use and smoking. Academic performance is often below age level and frequently warrants an additional diagnosis of a Learning or Communication Disorder. Attention Deficit/Hyperactivity Disorder is also frequently diagnosed in children with Conduct Disorder. In order to meet criterion for this disorder, one criterion characteristic must be met before the age of 10. In addition, Severity Specifics of mild, moderate and severe are included to provide additional information regarding the degree of the behaviors exhibited. The Conduct Disorder diagnosis should be made within the context of the child's home and social environment, and not used when such behavior is deemed protective for the individual (high crime areas). Males are much more likely to be diagnosed with a Conduct Disorder, and tend to exhibit more aggressive and violent behavior when compared to females with the same diagnosis. There has been an increase in the rate of reported Conduct Disorders during the past several years, with much of the increase noted in urban areas. The prevalence of Conduct Disorder is estimated between 6% -16% for males below 18 years

of age, and 2% to 9% for females. It is one of the most common diagnoses in child mental health settings. Twin studies have found both inherited and environmental influences (APA, 1994).

Diagnostic criteria for Conduct Disorder

A. A repetitive and persistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated, as manifested by the presence of three (or more) of the following criteria in the past 12 months, with at least one criterion present in the past 6 months.

Aggression to people and animals

(1) often bullies, threatens, or intimidates others

(2) often initiates physical fights

(3) has used a weapon that can cause serious physical harm to others e.g., a bat, brick, broken bottle, knife, gun)

(4) has been physically cruel to people

(5) has been physically cruel to animals

(6) has stolen while confronting a victim (e.g., mugging, purse snatching, extortion, armed robbery)

(7) has forced someone into sexual activity

Destruction of property

(8) has deliberately engaged in fire setting with the intention of causing serious damage

(9) has deliberately destroyed others' property (other than by fire setting)

Deceitfulness or theft

(10) as broken into someone else's house, building, or car

(11) often lies to obtain goods or favors or to avoid obligations (i.e., "cons" others)

(12) has stolen items of nontrivial value without confronting a victim (e.g., shoplifting, but without breaking and entering; forgery)

Serious violations of rules

(13) often stays out at night despite parental prohibitions, beginning before age 13 years

(14) has run away from home overnight at least twice while living in parental or parental surrogate home (or once without returning for a lengthy period)

(15) is often truant from school, beginning before age 13 years

B. The disturbance in behavior causes clinically significant impairment in social, academic, or occupational functioning.

C. If the individual is age 18 years or older, criteria are not met for Antisocial Personality Disorder.

312.81 Conduct Disorder, Childhood-Onset Type: onset of at least one criterion characteristic of Conduct Disorder prior to age 10 years

312.82 Conduct Disorder, Adolescent-Onset Type: absence of any criteria characteristic of Conduct Disorder prior to age 10 years

312.89 Conduct Disorder, Unspecified Onset: age at onset is not known

Specify severity:

Mild: few if any conduct problems in excess of those required to make the diagnosis and conduct problems cause only minor harm to others

Moderate: number of conduct problems and effect on others intermediate between "mild' and "severe"

Severe: many conduct problems in excess of those required to make the diagnosis or conduct problems cause considerable harm to others (DSM-IV; APA, 1994, pp. 90-91)

Oppositional Defiant Disorder

Oppositional Defiant Disorder is characterized by uncooperative, contrary and often hostile behavior toward authority for a period of no less than 6 months duration. Uncooperative behavior may be seen in reluctance or refusal to follow directions, limit testing, and willingness to enter into mediation with adults or peers (Vitiello, & Jensen, 1995).

Oppositional Defiant Disorder is a relatively new classification that was first added to the DSM-III in 1980. Although there are some concerns that it is difficult to distinguish from Conduct Disorder, as well as developmentally typical oppositionalism, it has been retained as a viable category based on research (Vitiello, & Jensen, 1995).

Oppositional Defiant Disorder is more common in families that undergo considerable disruption and change in caregivers, or are punitive

or neglectful in child rearing practices. Attention deficits, learning, and communication disorders are frequently associated with Oppositional Defiant Disorder (APA, 1994). Prior to puberty, there are more males than females with Oppositional Defiant Disorder, however the number equalizes after puberty. It is estimated that Oppositional Defiant Disorder occurs in 2% to 16% of the population. It is generally diagnosed before the age of 8 years, and is more prevalent in children whose parents have an identified psychiatric diagnosis.

Diagnostic criteria for 313.81 Oppositional Defiant Disorder

A. A pattern of negativistic, hostile and defiant behavior lasting at least 6 months, during which four (or more) of the following are present:

(1) often loses temper

(2) often argues with adults

(3) often actively defies or refuses to comply with adults' request or rules

(4) often deliberately annoys people

(5) often blames others for his or her mistakes or misbehavior

(6) is often touchy or easily annoyed by others

(7) is often angry and resentful

(8) is often spiteful or vindictive

Note: Consider a criterion met only if the behavior occurs more frequently than is typically observed in individuals of comparable age and developmental level.

B. The disturbance in behavior causes clinically significant impairment in social, academic, or occupational functioning.

C. The behaviors do not occur exclusively during the course of a Psychotic or Mood Disorder.

D. Criteria are not met for Conduct Disorder, and, if the individual is age 18 or older, criteria are not met for Antisocial Personality Disorder.

312.9 Disruptive Behavior Disorder Not Otherwise Specified

This category is for disorders characterized by conduct or oppositional defiant behaviors that do not meet the criteria for Conduct Disorder or Oppositional Defiant Disorder. For example, this category includes clinical presentations that do not meet full criteria either for Oppositional Defiant Disorder or Conduct Disorder, but in which there is clinically significant impairment (DSM-IV; APA, 1994, pp. 93-94).

Inclusion and Integrated Education of Developmentally Delayed Students

The Education for All Handicapped Children Act of 1975 (P.L. 94-142) mandates placement in the least restrictive environment (LRE) for students with disabilities. A number of educational options are available for students with identified handicaps along a continuum of service options from least to most restrictive. In New York State at one end of the

continuum, service options range from related services only to centerbased segregated schools and classes. Other options include integrated and mainstreamed classes, which include both developmentally delayed and nondisabled students. The terms mainstreaming, inclusion, and integration are often used interchangeably in the literature. The term integration is used for this study, and is consistent with language used in both federal and state guidelines with reference to preschool students.

The effectiveness of integration for students with developmental disabilities is a controversial area in the field of special education particularly at the preschool level. Gresham (1982) asserts that the concept of mainstreaming is based on three flawed assumptions. Assumption one: Developmentally delayed students will spontaneously increase social skills through exposure to nondisabled peers. Assumption two: Typically developing children will socially accept the developmentally delayed students, and Assumption three: Developmentally delayed children will spontaneously model typically developing students. Recent interest in both mainstreaming and the socialization of developmentally delayed children has stimulated research on the potential benefits and risks for delayed and nondisabled students.

Early studies found that developmentally delayed students in mainstreamed classes outperformed segregated students in some but not all areas of development. A few of these studies looked at the overall

benefits of mainstreaming (Jenkins, Speltz, & Odom, 1985; Madden & Slavin, 1983).

A review of the research literature by Madden and Slavin (1983) compared the effectiveness of mainstreaming versus the segregated placement of students with mild developmental disabilities. The review included studies using one of five educational placement options from the most to least restrictive. These options were: 1) special class, 2) resource room, 3) special services, 4) in-class assistance, and 5) teacher consultation. All of the subjects were classified as either educable mentally retarded (EMR), learning disabled (LD), or as globally developmentally delayed. They found that students with mild disabilities (IQ scores above the mid –70s) benefited most from mainstreaming in several areas. No clear advantage for segregated placement was found, with the exception of some students with IQ scores below the mid -70's. Integrated placement benefits included greater social acceptance by nondisabled peers, some improvement in behavior, and increased academic performance. Program components that were found to increase the likelihood of successful integration included adequate support systems for students and teaching staff, social skills training, consultation, cooperative learning, and individualized instruction. Social skills training was found to be effective for improving the social skills of nondisabled, withdrawn, and socially rejected

children, but no studies had been conducted with delayed students at the time of the review.

A subsequent study several years later by Cole, Mills, Dale, and Jenkins (1991) also compared mildly and severely developmentally delayed students that were now being integrated with typically developing peers. Data were collected on cognitive, language, and reading skills for both groups of developmentally delayed students. A significant aptitude by treatment interaction was found. As was found earlier by Madden and Slavin (1983), students who obtained higher scores on pretest measures, the mildly delayed group, gained more from integrated settings, and those who scored lower, the severely delayed group, gained more from the segregated setting. Cole et al. (1991) suggested structuring social interaction opportunities between students to facilitate socialization opportunities for the severely developmentally delayed students.

A subsequent study by Jenkins et al. (1985) investigated the overall efficacy of integrated versus segregated special education in a group of preschool students with developmental disabilities. At the beginning and end of the academic year, measures of cognitive, language, motor, preacademic, and peer interactions were collected for the segregated and integrated students and then compared. Surprisingly no differences were found between the developmentally delayed students in the integrated and segregated classes on measures of cognitive, language, preacademic, or

fine motor performance. Similarly, no differences between groups were found on a measure of social behavior or on observations of classroom social interactions; however, a significant difference was found during an experimental analogue condition. This experimental analogue situation was conducted both at the beginning and at the end of the school year. During the analogue situation each student was taken to a playroom and introduced to a nondisabled confederate peer who was instructed not to speak until the delayed child spoke first. In this situation, the integrated students exhibited more social behavior than the segregated students. Jenkins et al. (1985) suggest that the integrated students exposure to nondisabled peers increased social familiarity and social confidence that could account for the findings in the analogue situation. Overall, however, within the classroom, integrated students performed no better than segregated students in many areas. Unlike the previous studies reviewed that found differences in academic and social measures between the integrated and segregated students, this study found no differences.

To summarize, results of these studies suggest that developmentally delayed students attending integrated classes have the potential to fair better than segregated students when adequate systems such as teacher support and social skills training are provided. Mildly developmentally delayed students may benefit most, although there is evidence to suggest that students with more severe delays/disorders also benefit but they may

require specialized interventions. Although exposure to typical peers may increase social familiarity between developmentally delayed and typical students, structured interventions to address social delays seem necessary based on current findings.

Social Skills - Social Initiations

Typically developing preschool aged children lack sophisticated language and generally display a short attention span. This lack of complex language and capacity for sustained attention affects how preschoolers interact socially as demonstrated in a study by Ramsey and Lasquade (1996). They used three age groups of typically developing preschoolers to study peer entry skills, how children gain access to social experiences. They found that as children got older and became less self-centered, their peer entry strategies became more complex. In addition, older children with more sophisticated language and play skills sustained a play episode for a longer amount of time. Younger children played for shorter periods and needed to make more frequent entry attempts.

Acquisition of more complex social behaviors by developmentally delayed children is complicated by delays in language, cognition, and other developmental areas. Therefore, their social behaviors may be more similar to those of younger typically developing children than to those of typically developing children of the same age. Developmentally delayed preschoolers lag behind their typically developing peers in the acquisition

of numerous social behaviors. This has been documented in studies comparing the social interactions of developmentally delayed and nondisabled children in integrated school settings.

Faught et al. (1983) studied the social interaction patterns of developmentally delayed and nondisabled preschool students as a function of classroom environmental variables. Consistent with the findings of Peterson and Haralick (1977), Faught et al. found differences in the complexity of social interactions and in the choice of playmates between the developmentally delayed and nondisabled students. Social interactions between developmentally delayed and nondisabled students occurred frequently, but included less cooperative play, speaking, proximity, and facing behaviors than interactions between two nondisabled students. Similarly, nondisabled students selected other nondisabled students more often as playmates suggesting social opportunities for the developmentally delayed children are less than optimal in the natural environment. Taken together these two studies support Gresham's (1982) view of mainstreaming, suggesting that placing delayed and nondisabled students in the same classroom increases the frequency of interaction but not the quality of the social interaction or play.

Hanline (1985) studied the spontaneous social interactions between severely delayed and nondisabled students enrolled in a developmentally appropriate play-based integrated preschool. Placing students in close

proximity to one another and providing them with models, prompts, and reinforcement facilitated social interactions between delayed and nondisabled students. Behavioral observations of each student were coded for the following behaviors: Initiation, Response, Positive Behavior, Negative Behavior, and Termination Behavior. Frequent social interactions were found to occur between the delayed and nondisabled students. The students without disabilities, however, initiated social interactions more often than the delayed students and continued to interact in the absence of a response from the delayed student. Termination of the social interaction initiated by nondisabled children was most common following a negative social response by the delayed child. It was less likely that the nondisabled child would terminate the interaction if the developmentally delayed child ignored or failed to respond to the social initiation.

Honig and McCarron (1987) examined the prosocial initiations of developmentally delayed mainstreamed and typically developing preschool children. Fewer spontaneous positive interactions were expected between the nondisabled and developmentally delayed students because of a tendency for children to interact with similar peers. Observations of prosocial behaviors that included sharing, helping, nurturing, cooperating, and sympathizing revealed differences in the frequency of these behaviors. For example, prosocial behaviors were most commonly observed during freeplay and structured play times across activities and less often during

teacher directed (circle time) and unstructured (gym) activities. Although the developmentally delayed and typically developing children engaged in frequent prosocial behavior, the range of social behavior exhibited by the developmentally delayed students was less diverse.

Jenkins et al. (1989) expanding on their earlier work (Jenkins et al., 1985), studied the socialization of developmentally delayed integrated preschoolers. Two playbased interventions: integrated playtime or child-directed developmentally appropriate practices were used to facilitate the social interactions of the developmentally delayed students. Play was coded using Parten's (1932) five categories: Isolate/Unoccupied, Proximity, Interactive, Negative, and Teacher. The two interventions were compared and differences in the frequency of solitary play, a less complex type of play, between the integrated play and the child-centered conditions were found. Lower rates of solitary play and higher rates of social interaction were found for the integrated play time condition. Developmentally delayed students in the integrated play time condition were also rated more positively by their teachers compared to the segregated students on a measure of social competence. The authors suggest curriculum modification to increase meaningful socialization experiences between developmentally delayed and nondisabled students.

Social Skills - Play

A group of developmentally delayed students were observed in two contexts, one integrated and one segregated in a study by Guralnick and Groom (1987). Students spent part of their day in an integrated playgroup and part of the day in a segregated playgroup. During the integrated playgroup time, developmentally delayed students engaged in more frequent social interactions than when in the segregated playgroup. An analysis found that the increased frequency of social interaction of the developmentally delayed students was attributed to the social initiations of the nondisabled students, rather than initiations of the developmentally delayed. This finding suggests that while the frequency of social interactions of developmentally delayed students may increase as a result of the social initiations of nondisabled peers, the developmentally delayed students continue to lack the skills needed to initiate and sustain these social interactions independently.

The social and mastery behaviors and classroom characteristics of students enrolled in an integrated class were studied by Hauser-Cram, Bronson, and Upshur (1993). Mastery behaviors were defined as the ability to work independently and constructively and transition from task to task with little adult support. Data on cognitive development, socioeconomic status, and type of disability were collected. Student-teacher ratio in the classroom, the degree of integration (the ratio of

delayed to nondisabled students), and the amount of choice given students for activities were used as measures of classroom characteristics. A positive relationship was found between cognitive performance and social interaction skills. Children with higher cognitive scores tended to engage in more complex and frequent social interactions with peers and less frequent interactions with teachers. As would be expected, more frequent peer social interactions were evident in classes where the proportion of nondisabled to delayed students was greater. Higher teacher to student ratio, on the other hand, resulted in less peer interaction and less sophisticated play. Finally, students who were permitted greater choice in activities engaged in social interactions more frequently than children given fewer choices. In summary, developmentally delayed students in classes with higher ratios of nondisabled to delayed students exhibited more social interactions with peers and greater independence from the teacher.

Bronson et al. (1995) looked at the classroom behaviors of delayed and nondisabled preschool students. The delayed students were compared to two groups of nondisabled students that were either the same chronological age or of similar mental/developmental age. A secondary comparison was made between the delayed students of differing etiologies (i.e., Down syndrome, and mild to moderate mental retardation). Significant differences between children with disabilities and typically developing peers were found in four areas; use of time, mastery-task

involvement, social interaction with peers, and social interaction with adults. Students with Down syndrome and other developmental disabilities differed from the typical students in their frequency of attempts to influence peers through verbal means and in their use of social strategies. In fact, the delayed group overall was similar to the 2-year-old group displaying significantly less social interaction strategies than the typical 3-year-olds. The students with Down syndrome displayed higher-level social skills when compared to the mild/moderately retarded students.

Taken together, these studies suggest that the social skills of developmentally delayed children are expressed differently than their typically developing peers. Developmentally delayed children are similar to younger typically developing children than to same aged nondisabled peers. Children with higher cognitive skills benefit more from integrated school experiences in at least the social sphere.

Careful examination of the social interactions of delayed children reveal differences in the quality of social interactions and choice of play peer. Social initiations are more often generated by the nondisabled peer and are often not reciprocated or maintained by the delayed child. Social interactions are more common in classrooms where socialization is emphasized and encouraged and during moderately structured activities. Delayed students have fewer social behaviors in their repertoire and are less socially mature in comparison to typically developing children.

Play and Socialization

Play is often the vehicle through which social interactions occur in the preschool years. Investigators have observed the play of typical and developmentally delayed children in a variety of different settings and conditions, using both structured and unstructured observational tools. Rogers-Warren (1980) analyzed the play and social behaviors during free play and outdoor playground time of both developmentally delayed and nondisabled preschool students. A social interaction observation scale was used for eight weeks to record: 1) play area, 2) number of developmentally delayed and nondisabled students in the play area, 3) type of play, and 4) choice of playmate. Analysis of behavioral observations revealed a tendency toward play with similar children, so that delayed children tended to play with other developmentally delayed children, and nondisabled children tended to play with other nondisabled children. The developmentally delayed students were found to engage in more isolate play.

Beckman and Kohl (1987) compared the play behaviors and social interactions in the same group of developmentally delayed preschoolers during either integrated or segregated playtime. During half the day, students without disabilities were integrated into the classroom. Observations of the social and play behaviors of the developmentally delayed students were conducted during freeplay in the morning

(segregated) and afternoon (integrated) play times. Data were collected on the frequency of positive interactions and increasing complexity of play defined as: indiscriminate/investigative (toy is used in repetitive way such as mouthing or banging), functional (use of a specific feature of the toy such as coloring with crayons), or pretend (symbolic use of toys). As expected, nondisabled students engaged in more positive interactions than developmentally delayed students. In general, social interactions were more common during the integrated playtime. Interestingly, positive interactions increased for both groups but were greater for the developmentally delayed students during the integrated freeplay time. It was also anticipated that the nondisabled students would engage in more complex play compared to the developmentally delayed students. This was in fact supported by the data, confirming that nondisabled students engaged in less indiscriminate/investigative and functional play than the developmentally delayed students, although functional play was the most common type of play observed for both groups.

Federlein (1982) undertook a comparison of the level of play for three different groups of children. The three groups were: 1) developmentally delayed attending a segregated class, 2) developmentally delayed enrolled in a mainstreamed setting or, 3) nondisabled attending a regular class. The purpose of the investigation was to examine whether the play levels for the developmentally delayed students in the

mainstreamed setting approximated the play of the nondisabled group. Play level was coded using Partens (1932) categories of: onlooking, solitary play, parallel play, associative play, and cooperative play. Play level in the mainstreamed setting was comparable to nondisabled play and was significantly different from play level of the developmentally delayed segregated group.

Variables such as the types of toys children play with and have available to them influence play. Beckman and Kohl (1984) investigated toy type and play behavior in a study on the freeplay of developmentally delayed preschool children attending either integrated or segregated playgroups. Observational data were collected on the frequency of social interactions, time engaged in toy play, and toy choice (isolate vs. social toy). Toys that facilitated interactions were rated as social toys, and toys that lent themselves to solitary play were rated as isolate. Social toys were found to elicit higher rates of social interaction regardless of whether students were enrolled in segregated or integrated classes; however isolate toy play was sustained for longer periods of time compared to other toy play. The children in the integrated group engaged in more frequent social interactions than the segregated developmentally delayed students overall. Research conducted by Martin (1986) obtained similar results. Children were more socially interactive when exposed to toys that were "social" compared to "isolate" toys. In addition, students involved with

typically developing peers in integrated settings expressed more social play and interactions than segregated children.

Johnson and Ershler (1985) compared the toy preferences and play levels of developmentally delayed and nondisabled preschoolers. Play was categorized as either: 1) nonplay, 2) cognitive play, or 3) social play. Differences in the quality but not quantity of symbolic play were found between the developmentally delayed and nondisabled students.

In summary, differences in the quality of play between developmentally delayed and nondisabled children have been well documented. Toy selection has an influence on the level of play exhibited by children. Environmental influences also help define how children play and socialize with one another. Relative to typically developing children, developmentally delayed preschoolers tend to engage in more frequent isolated, less complex or sophisticated play, and interact with other children more frequently in integrated settings.

CHAPTER III

Social Skills Training

Efficacy of Social Skills Training

The research reviewed thus far shows that the social skills of developmentally delayed children lag behind those of their typically developing peers. Placing developmentally delayed children in integrated school settings does not ensure the acquisition of appropriate social skills. Without these skills, developmentally delayed children will not be able to form meaningful relationships. Children who fail to form meaningful friendships due to a lack of social skills are at risk for developing academic and socioemotional problems (Doll, 1996). Social skills interventions for children have used various techniques including manipulation of antecedents and consequences, modeling, and cognitive behavioral techniques (Gresham, 1981a). Earlier studies typically used single interventions, such as skills training or reinforcement (Oden & Asher, 1977). Treatment packages are more popular today and typically include combinations of behavioral, social problem solving, perspective taking, and self-control methods (Beelman et al., 1994).

Gresham (1981a) reviewed a group of behavioral social skills intervention studies. At the time of the review, the findings supported the usefulness of social skills training for developmentally delayed children in mainstreamed settings. Because many of the studies included in the

review were preliminary and had methodological problems, further investigation on the efficacy of social skills training was recommended. Specifically, Gresham suggested focusing on the selection of target behaviors, social validity of the target behaviors, generalization and maintenance, and treatment effects by population.

Peterson and McConnell (1993) shifted focus from treatment efficacy to treatment impact as a way of evaluating social skills research. They discussed factors related to the impact of social skills interventions with preschoolers and concluded that although many studies have focused on the effectiveness of specific interventions, few have evaluated the impact of an intervention, or more specifically, how research has been translated to practice. According to the authors, the probable impact of a study can be evaluated by assessing the acceptability and integrity of the treatment.

The effectiveness of social skills training programs has been found to vary by the intervention strategy and population studied. Both treatment efficacy and intervention impact are important considerations. The overall effect size reported for Social Interaction Skills Training for children (3-15 years old) was .34 (Beelman et al., 1994). Schnacker (1995) looked at characteristics of social skills training for students with behavior disorders in a review of 38 single-subject design studies. Direct observation was found to be the most common dependent measure followed by rating

scales. About 90% of the studies used multiple interventions, which included performance feedback, behavioral rehearsal, and modeling. "Train and hope" was the most common generalization procedure, followed by training in the natural environment, and training to generalize.

Social Skills Training- Developmentally Delayed Preschoolers

Results of studies in previous sections of this review have shown that exposure to nondisabled children may facilitate social interactions between developmentally delayed and nondisabled children. Interventions that incorporate experiences with nondisabled peers and structured teaching components were most effective in improving social skills.

Nondisabled peers have been used as both models for their delayed peers and as confederates in experimental classroom studies. Peer confederates were used to increase the social interactions of developmentally delayed preschoolers in a study by Odom, Hoyson, Jamieson, and Strain (1985). Unlike other studies using peer confederates, Odom et al. (1985) selected target behaviors that were rated highly in sociometric status by nondisabled peers. Highly rated target behaviors included play organization, sharing, and responding to peers social initiations. It was anticipated that highly valued social behaviors would generalize and maintain more readily through natural social reinforcers. In addition to the use of peer confederates to elicit and reinforce selected behaviors, generalization strategies were included as

part of the treatment. Peer models were trained to function as role models and to direct social initiations. They were instructed to persist if the delayed students did not respond. A token economy system was used to provide reinforcement to the peer confederates when the delayed students responded to their social overtures. An analysis of the data indicated that sharing, positive physical contact, and verbal complimenting improved following social skills training for the developmentally delayed preschoolers. The token rewards had little impact on maintaining confederate behavior, whereas the removal of teacher prompts markedly decreased confederate social initiations.

Brown (1988) identified 10 social skills deemed important for preschoolers attending a school serving both developmentally delayed and typically developing children. Social skills were taught through semi-structured story telling, and teachers were taught how to facilitate these skills in the classroom. Both the developmentally delayed and typically developing children were trained in these 10 social skills. Teachers rated the students during each session based on predetermined behavioral criteria, and the teacher aides assisted with management of the students during training sessions. At the end of the training, teachers rated each student on the instrument designed to measure the 10 social skills. As anticipated most of the students displayed fewer deficiencies in all 10 social skills during and immediately after the social skills intervention.

Preschool aged developmentally delayed preschoolers were taught four social behaviors using puppets, peer modeling, and role playing (Matson, Fee, Coe & Smith, 1991). At the end of the training, students in the treatment group were rated by trained observers as exhibiting appropriate social skills more often and inappropriate social behaviors less often than when initially observed before treatment. The findings were of particular interest in that they demonstrate a lack of social gains for students in the control group, supporting evidence that special education alone is insufficient to remediate the social deficits of developmentally delayed students.

Social Skills Training- At Risk Preschool Students

Social skills were taught to preschoolers identified as socially at risk for rejection by their peers (Mize & Ladd, 1990). Part of the social skills training program included identifying and evaluating at risk students' knowledge of appropriate positive social interaction skills. Skills training which included instruction, rehearsal, and feedback was implemented with the students in pairs. The goals of training were joining another child in play and elaborating a play theme. After each instructional segment, students rehearsed the goal behaviors and were prompted to recall the events of the session. Students were given the opportunity to rehearse the goal behaviors after each instructional segment. Videotapes of the training sessions were also used to encourage students to identify the social skills

used during the instructional segment. After social skills training, significant changes were found in the frequency of social behaviors exhibited by the treated group when compared to the untreated control group. Two social skills, "leads," making a positive or neutral comment to a peer, and "comments," making a comment to a peer using a positive tone, increased significantly, while "questions" and "supports" did not change significantly.

Brown, Ragland, and Fox (1988) taught group socialization techniques to head start preschool students identified as deficient in social skills and later observed social interactions during structured games and unstructured playtime. Two students with social deficits were assigned to a playgroup with 9 other socially adequate children. Group socialization procedures were administered to each group of 10 students during a structured play period in which teachers prompted the socially deficient children to interact with their peers. Teacher prompts for socialization were followed by reinforcement in the form of social praise. A multiple baseline design was used to evaluate the effectiveness the group socialization treatment. At the conclusion of the study, socially deficient children were found to interact more frequently during group socialization.

Social Skills Training- Behaviorally Disordered

McConnell et al. (1991) studied the impact of individual and group contingency management procedures and social skills training on the

social behavior of preschool students. The social skills training took place in the classroom and focused on 10 social behaviors that were selected based on empirical evidence. The 10 social behaviors fell into one of three categories: 1) Social Initiations, 2) Social Responses, and 3) Extended Social Interaction. The skills were introduced by the trainer who described the skill, modeled the behavior, and facilitated role-play and practice experiences. After the social skills training, students were individually coached during freeplay to produce the behavior that had previously been taught during the social skills training. Group coaching was implemented to facilitate social interactions between students. During the baseline phase, all four students exhibited low steady rates of the target social behaviors. Although 3 of the 4 subjects demonstrated increased social skills during the skills training phase and role-play phase, the skills were not evident during observations of freeplay. The group coaching procedure increased the rate of peer social responding but had little effect on the social interactions between socially deficient students and their classmates.

Nientimp and Cole (1992) taught severely behaviorally disordered students to socialize more appropriately with their nondisabled peers. Students attended a segregated class, but were exposed to typically developing peers throughout the day. Using a time delay procedure, the developmentally delayed students were taught to respond to social

overtures displayed by the trainer and typical peers. The time delay method allowed a five-second interval to elapse following a prompt before the trainer provided feedback to the student. The target behaviors for training were selected by surveying a group of nondisabled students who rated social greetings and responses as most important. At the conclusion of the study, the three severely developmentally delayed students significantly increased the frequency of independent social greetings and responses to the trainer and decreased the frequency of echolalic responding. Not all students were found to generalize the newly acquired social behaviors to interactions with nondisabled peers.

Sharing with others is an important social skill that typically developing children learn naturally. Through sharing children develop the basic understanding of turn taking, problem solving, and negotiation skills. Children who share are often responded to in more positive terms by their peers. A study by Bryant and Budd (1984) evaluated the effectiveness of a program to train behaviorally developmentally delayed preschoolers to share. In addition to severe behavioral problems, four of the children had cognitive, language, or motor delays. Data collected on the frequency of sharing behaviors were measured by seven child behaviors, such as offers to share and requests to share. Data were also collected on teacher response to sharing, such as positive attention for sharing. Prior to and following training in sharing, student level of sharing knowledge was

assessed through an interview process. A multiple baseline design was used to measure the effectiveness of training and to evaluate the differential effects for individual students. Training for sharing was provided to pairs of students for 10 minutes daily by the classroom teacher. Five of the six students displayed more sharing and less negative behavior during treatment. No behavioral changes were found for one student.

The literature reviewed thus far demonstrates the wide range of treatment approaches that have been used to remediate social deficits with developmentally delayed, at risk, and behaviorally disordered preschoolers. Several intervention approaches have been implemented to increase the social skills of delayed students. Group interventions, peer models, and reinforcement have all been somewhat effective at teaching new social behaviors. Not all methods are effective for all students, although multimethod treatments appear to be the most effective across populations. Program components such as clearly defined and developmentally appropriate target behaviors, modeling, rehearsal, and reinforcement have all been associated with successful interventions.

Social skills training is an effective procedure to decrease the social deficits of young developmentally delayed children. Various treatments have been used successfully both in the classroom and out. Teachers consistently report the need for social skills training for their students, yet social skills curricula are underutilized. Interventions that have proven

efficacy may be impractical to implement in the classroom, and teachers may not have access to appropriate materials.

Social Skills and Generalization

Although several studies reviewed previously included a generalization procedure, the following studies focused primarily on generalization and maintenance of social skills. Evidence on the effectiveness of social skills training has been accumulating. Although many studies have found positive changes in social skills during training, these skills have not been found to generalize well to other settings. Gresham (1981b) recommends training behaviors that are socially valid because they are more likely to be maintained by reinforcers in the natural environment. Techniques such as incidental teaching, reinforcement throughout the instructional day, and teaching nondisabled students to respond positively to the social overtures of the developmentally delayed may also increase the probability of generalization. To ensure that students were reinforced throughout the day, Storey et al. (1994) trained teaching aides to facilitate peer interaction skills of socially delayed preschoolers and implement a token system in the classroom. This method was effective in increasing the generalization of social skills across settings.

Chandler and Lubeck (1992) reviewed the generalization effects of social skills research with preschool aged children conducted between

1976 and 1990. They note that both generalization and maintenance are difficult to achieve. This ultimately restricts the use of social skills intervention in applied settings. Of the 51 articles reviewed, 27% found at least partial generalization. The most successful studies used peer initiation as a target behavior and included more than one behavior-change strategy in the treatment package. The strategies used most often in the successful research included prompting plus positive reinforcement and reinforcement plus feedback. Studies that included generalization promotion techniques such as using functional target behaviors and those that determined and defined fluency criteria were also more likely to find generalization.

DuPaul and Eckert (1994) reviewed generalization results of studies using commercially available social skills curricula. Of the 7 studies identified, generalization procedures included: train and hope, modification of consequences, training sufficient exemplars, incorporating common physical and social stimuli, and the use of self-mediated stimuli. The least effective method was train and hope, while changes in consequences within the natural environment were most effective.

Kamps, Ellis, Mancina, and Greene (1995) taught specific social skills through direct instruction, incidental teaching, and reinforcement to a group of 4-and 5-year-old students identified by their teachers as exhibiting behavior problems. These students were enrolled in a Head Start program

and were taught social skills by teachers in small groups during the course of the school day. Social interaction time was measured after the first year and again after the second year of preschool. Students who were taught social skills and reinforced for prosocial behaviors showed the most improvement. They sustained social interactions longer than the control group or students receiving only social skills training. It appears that the incidental teaching and reinforcement components facilitated generalization of social skills to other settings.

Hundert and Houghton (1992) implemented a classwide social skills program with 14 developmentally delayed preschool students enrolled in four separate integrated classes. The multimethod program included instruction, modeling, puppets, rehearsal and feedback, reinforcement, token contingencies, and evaluation. Social interactions were defined as play invitations, sharing, persisting at play, giving complements, and helping. Skills were taught to all students, both delayed and nondisabled, in each class. Teachers provided guidance, cues, and reinforcement, both social and tangible, to students engaging in positive social interactions. At the end of each training session, students reviewed the rationale for earning reinforcers. The tangible reinforcers were faded in the final phase of the study. An analysis of the data indicated that students increased the frequency of social interactions during the training period; however, generalization of skills across settings was not found. Hundert and

Houghton suggest that generalization of social behaviors of children with disabilities is more complex than in the nondisabled population.

The generalization of social skills was investigated in a study by LeBlanc and Matson (1995). Thirty-two developmentally delayed preschool children with mild to moderate handicapping conditions received social skills training using puppets, models, role play, and reinforcement. The four target behaviors were taught and reinforced during 1-hour sessions in the classroom over four weeks. The target behaviors were verbal greetings, toy request, play initiation, and offers to share or show a toy. A time-out procedure was used for students who engaged in inappropriate behavior. Two students with developmental delays who did not receive the social skills training were brought into the classroom. Post treatment rates of target social behaviors were maintained while these students were in the classroom.

For generalization to occur, a planned strategy must be incorporated as part of the treatment package. There is ample evidence to suggest that train and hope generalization procedures in conjunction with implementation of treatments that are conducted only within contrived conditions are unlikely to produce carryover effects in the natural environment. Choosing target behaviors that are functional to the population is critical to ensure continued reinforcement post training. Further, Moore (1994) in response to criticisms regarding a lack of

sufficient generalization for social skills curricula points out that while it may seem obvious, generalization can only occur if the initial treatment was found to be effective.

CHAPTER IV

Method

Problem Statement

The literature review revealed a trend in preschool special education toward inclusion. Gaps in the social skills of developmentally delayed children place them at risk for developing academic and socioemotional problems. However, simply placing them in integrated classes will not ensure the acquisition of appropriate social skills. The studies reviewed have shown that social skills training has been moderately effective, but not always easily accessible to teachers or feasible to implement in the early childhood classroom. Although peer model methods have shown promise, unlike direct teaching methods, they do not facilitate independent functioning of the developmentally delayed. Multimethod treatment packages have also been moderately effective, particularly behavioral interventions that include modeling, rehearsal, and reinforcement. There has been no study to date that has used a commercially available multimethod treatment package curriculum such as Taking Part (Cartledge & Kleefeld, 1991) to teach social skills to developmentally delayed preschool students in an integrated setting. This study is the first to assess the effectiveness of this curriculum in conjunction with classroom reinforcement of target behaviors by teachers to promote generalization.

Purpose:

This study compared the Social Skills Rating System - Teacher Form Preschool Level (SSRS-T; Gresham & Elliott, 1990) scores and classroom behavioral observations of Being in a Group and Sharing target behaviors for three groups of developmentally delayed preschoolers in the following conditions: 1) Group A – social skills intervention plus classroom reinforcement of target behaviors, 2) Group B- classroom reinforcement of target behaviors, 3) Group C- no intervention. Following assessment of these initial interventions, Group B received social skills intervention plus classroom reinforcement of target behaviors, and Group A received classroom reinforcement of target behaviors alone. Group C continued to receive no treatment.

Design

This study used a crossover pretest-posttest control group design with three groups of subjects. After 3 days of initial assessment of participants in all groups, Group A received 8 days of social skills intervention plus classroom reinforcement of target behaviors followed, after 3 days of assessment, by 8 days of classroom reinforcement of target behaviors only. Group B received 8 days of classroom reinforcement of target behaviors only followed, after 3 days of assessment, by 8 days of social skills intervention plus classroom reinforcement of target behaviors.

Group C received no intervention throughout the five-week period. All group members were reassessed at the end of treatment.

This design permitted examination of the comparative effectiveness of 1) the social skills training plus classroom reinforcement of target behavior versus classroom reinforcement of target behaviors alone, 2) social skills training plus classroom reinforcement of target behaviors versus no intervention, and 3) classroom reinforcement of target behaviors alone versus no intervention. The design allowed replication of the joint effects of social skills plus classroom reinforcement and a replication of the comparison of these joint effects to no intervention. The design also enabled evaluation of the effects of repeated assessment alone in the no-treatment control group.

Figure 1. Representation of Design

Group	First Assessment	First Intervention	Second Assessment	Second Intervention	Third Assessment
A (n=19)	SSRS-T plus Classroom Behavioral Observation of Target Behaviors	Social Skills plus Classroom Reinforcement of Target Behaviors	SSRS-T plus Classroom Behavioral Observation of Target Behaviors	Classroom Reinforcement of Target Behaviors	SSRS-T plus Classroom Behavioral Observation of Target Behaviors
B (n=19)	SSRS-T plus Classroom Behavioral Observation of Target Behaviors	Classroom Reinforcement of Target Behaviors	SSRS-T plus Classroom Behavioral Observation of Target Behaviors	Social Skills plus Classroom Reinforcement of Target Behaviors	SSRS-T plus Classroom Behavioral Observation of Target Behaviors
C (n=20)	SSRS-T plus Classroom Behavioral Observation of Target Behaviors	No Intervention	SSRS-T plus Classroom Behavioral Observation of Target Behaviors	No Intervention	SSRS-T plus Classroom Behavioral Observation of Target Behaviors

The social skills instruction plus classroom reinforcement of target behaviors condition was included because the literature reviewed (i.e., Kamps et al., 1995; Storey et al., 1992) indicated that this combination is more effective than social skills training alone for social skills acquisition and generalization. The reinforcement of target behaviors alone group was included to determine the effects of reinforcement alone and to isolate the effects of social skills training. The no-treatment group controlled for the passage of time. A social skills only group was not included, because research has shown that children only use acquired social skills for a short

time in the absence of reinforcement of target behaviors. It would also have been difficult to obtain enough subjects for a fourth condition.

Participants

Subject Descriptive Information

Of the 69 students whose parents were sent consent forms, 2 refused participation, 8 did not respond, and 1 withdrew after the first week of the study. Thus, 58 subjects participated in the study. The 58 participants were developmentally delayed students attending integrated classes in special education preschools located in Queens and Nassau Counties in New York.

The mean age of participants was 50.71 months (SD = 8.29). There were 42 boys and 16 girls, which is consistent with gender prevalence rates for the diagnostic categories represented (see Table 3) in this sample of roughly 3 to 1. Ratings of socioeconomic status were based on the Hollingshead Four-Factor Index of Social Status (1975). The average SES from the Hollingshead Four Factor Index of Social Status for the sample was 33.16 overall (SD = 14.27). Most students' parents were employed within the skilled craftsmen, clerical, and sales workers sector, which is considered to fall in the middle income range (scores from 30-39). Groups did not differ by age, F (2, 57) = .99, $p > .05$; SES, F (2, 57) = 1.02, $p > .05$; or gender, χ^2 (N=58,2) = 1.29, $p > .05$. Table 1 presents group mean age

and SES ratings as well as the number of males and females in each group.

Table 1

Age, SES Rating, and Numbers of Males and Females by Group

	Group A		Group B		Group C	
	M	SD	M	SD	M	SD
Age	49.37*	9.15	49.84*	7.36	52.80*	8.26
SES Rating	30.53	14.28	33.53	13.36	37.05	15.07
Gender	Males 15 (79%) Females 4 (21%)		Males 12 (63%) Females 7 (37%)		Males 15 (75%) Females 5 (25%)	

*Age in months

All of the students met New York State eligibility criteria as a Preschool Student with a Disability (PSWD) based on standardized testing. Participants met eligibility according to New York State guidelines requiring delays of 33% or greater in speech and language development, cognitive development, or a combination of the two. Prior to entering preschool students were evaluated to determine eligibility for special education services to include speech and language and psychological testing using the Preschool Language Scale, Stanford-Binet Intelligence Scale, 4th Edition or the Bayley Scales of Infant Development, 2nd edition. The scores from these standardized tests were analyzed to provide additional information on the student population. The mean IQ for all students was 71.71 (SD = 17.43), and 68.98 (SD = 14.89) for Speech and Language

scores.

Table 2 presents subjects IQ and Speech and Language Scores by Group. The groups did not differ with respect to IQ, F (2, 57) = 2.66, $p > .05$, or speech and language score, F (2, 57) = 2.55, $p > .05$.

Table 2

IQ and Speech and Language Scores by Group

	Group A		Group B		Group C	
	M	SD	M	SD	M	SD
IQ	66.37	17.46	69.89	17.51	78.50	15.87
Speech	68.42	12.62	63.89	12.57	74.35	17.55

After a student has been evaluated and deemed to meet eligibility criteria as a preschool student with a disability by the school district, the preschool may offer a placement when available, based on service recommendations. Service recommendations vary, and may include placements in centerbased classes as well as integrated classes, all falling along the continuum of service options available to preschool students.

This study included only students enrolled in the integrated preschool model. The integrated classes ranged in size from 12 to 15 students with one lead teacher and two assistant teachers. The ratio of PSWD to community students is 6/6 in classes of 12 students, and 7/8 in classes of 15. If parents accept the recommendation and placement

offered, school administration randomly assign each student to one of the integrated classes within the agency based on availability.

Community students are tuition paying typically developing students drawn from within the school community. This study was conducted during the six-week summer session. There was an unanticipated decrease in the number of community students during the summer session, and therefore the number of typical students was lower than during the regular school year. Nine integrated classes were used in this study.

Individual student records were analyzed and DSM-IV classifications were derived from the existing data. A few students had existing classifications given by medical doctors and some by the evaluating school psychologists. Those students who did not have an existing DSM-IV diagnosis were assigned one of 14 diagnostic categories based on a review of individual records to include standardized test scores. Of the 58 cases, 17, 29.3% met criteria for a Mixed Expressive Receptive Language Disorder; 10, 17.2% Expressive Language Disorder; 9, 15.5% Mild Mental Retardation; 6, 10.3% Pervasive Developmental Disorder NOS; 5, 8.6% Attention Deficit Hyperactivity Disorder, Combined; 4, 6.9% Moderate Mental Retardation; 4, 6.9% Phonological Disorder; 2, 3.4% Autistic Disorder; and 1, 1.7% Profound Mental Retardation. Sixteen students met criteria for a second DSM-IV diagnosis. Of these 16, 5 met criteria for Mixed Receptive-Expressive Language Disorder, 4 for Attention Deficit

Hyperactivity Disorder, 3 for Expressive Language Disorder, 1 for Phonological Disorder, 1 Pervasive Developmental Disorder, 1 for Pervasive Developmental Disorder NOS and 1 for Conduct Disorder. Table 3 presents subjects DSM-IV classifications by group.

Table 3

Frequency of DSM-IV Classifications by Group

	Group A	Group B	Group C
Mild MR	6	2	1
Moderate MR	1	3	0
Profound MR	0	0	1
Mixed Receptive-Expressive Language Disorder	2	6	2
Receptive Language	2	6	9
Phonological Disorder	2	1	1
Autism	1	0	1
PDD	3	1	2
ADHD	2	0	3
	19	19	20

Because students were placed randomly into classes, it was anticipated that each class would be roughly equivalent with regard to severity of developmental disability and other demographic data. Pretest intelligence test and language scores were obtained from initial evaluations

administered to determine preschool eligibility. Each student was diagnosed using the DSM-IV (APA, 1994) if an existing diagnosis was not obtained from the records. Treatment groups were formed by class assignment so that all PSWD students in a class received the same treatment. A total of nine classes were used. Three classes formed treatment group A, three classes treatment group B, and three classes group C.

Diagnostic Measures

Developmentally delayed preschoolers were identified according to New York State Parts 200 guidelines (quoted in Chapter II) using the following tests:

Stanford-Binet Intelligence Scale, 4th Edition (Thorndike, Hagen, & Sattler, 1986). The Stanford-Binet Intelligence Scale, 4th edition is a standardized intelligence test normed for individuals from 2 through 23. At the three to five year age level it consists of 8 subtests in four areas, Verbal Reasoning, Abstract/Visual Reasoning, Quantitative Reasoning, and Short-Term Memory. These area scores are combined to derive a Test Composite Score with a mean of 100 and standard deviation of 16. Reliability coefficients range from .95 to .99.

Bayley Scales of Infant Development, 2nd Edition (Bayley, 1993). The Bayley Scales of Infant Development are designed to measure the

developmental functioning of infants and children ages 1 to 42 months. The scale consists of three subscales, Mental, Motor, and Behavior. Each scale is scored separately and complements the others. The mental scale has a mean of 100 and standard deviation of 15. Reliability coefficients range from .83 to .93 for the mental scale.

Preschool Language Scale (Zimmerman, Steiner, & Pond, 1991). The Preschool Language Scale (PLS) is used to assess receptive and expressive language skills in infants and children from 2 weeks to 6 years 11 months. The PLS has a mean of 100 and standard deviation of 15. Internal consistency reliability coefficients ranged from .74 to .94. Interrater reliability agreement was 89% with a correlation of .98.

Treatment Package

Taking Part, Introducing Social Skills to Children (Cartledge & Kleefeld, 1991). Taking Part is a commercially available social skills training program developed for children in general education and mainstreamed classes. The information taught is considered to be essential for the development of social skills. The curriculum defines the behavior and teaches the skill through exemplars, question asking, and providing feedback. Practice items are also included in the curriculum to facilitate generalization.

Taking Part (Cartledge & Kleefeld, 1991) includes six units with five

to seven skills in each unit. The curriculum is flexible and skills may be taught separately, or as part of the entire unit. Two skills from Unit 4 Cooperating with Peers were selected: Joining a Group Activity and Sharing Materials. These skills are considered critical in the development of social skills (Gresham & Elliott, 1990), are prerequisite skills for more complex social behaviors, and are developmentally appropriate for preschool aged students. Several other studies have examined sharing and social initiations as evidence of social competence (Bronson et al., 1995; LeBlanc & Matson, 1995).

For this study, the definition of social skills developed by Gresham & Elliott (1984) was used. This definition is consistent with the definition used in the Social Skills Rating System (SSRS; Gresham & Elliott, 1990) and Taking Part (Cartledge & Kleefeld, 1991). Social skills are defined as "...socially acceptable learned behaviors that enable a person to interact effectively with others and to avoid socially unacceptable responses" (Gresham & Elliot, 1990, p.1).

Specific social skills identified in Taking Part, (Cartledge & Kleefeld, 1991) can also be cross-referenced to the SSRS-T. Taking Part and the SSRS are coordinated and can be readily used together.

Dependent Measures

Social Skills Rating System (SSRS; Gresham & Elliott, 1990). The Social Skills Rating System - Teacher Form, Preschool level (ages 3-5), is a 40-item standardized, norm referenced rating scale designed to measure social skills and problem behaviors in the classroom. The underlying premise of the SSRS is that problem behaviors can prevent socially competent behaviors from occurring. The SSRS-T focuses on positive social behaviors, as well as the identification of problem behaviors. The norms provided are based on a diverse population of 4000 students.

A Total Social Skills Score can be derived from the SSRS-T. Social skills are divided into three areas: 1) Cooperation, 2) Assertion, and 3) Self-control. These three areas are combined to form the Social Skills Total Score. The Total Social Skills Score includes items that measure sharing behavior and being in a group, which are target behaviors for this study. Behaviors for the Social Skills Scale are rated on a 3-point likert scale. The total Social Skills Score can be computed by combining scores on Cooperation, Assertion, and Self-control ratings.

As indicated above, The Social Skills Total Score will be used for this study. The SSRS-T Preschool Level was selected because it has been found to have good psychometric properties, is readily available to preschool teachers, and is one of the few assessment instruments that can be used with developmentally delayed preschoolers. The SSRS has been

evaluated as the most comprehensive social skills assessment instrument and praised for its usefulness in targeting and evaluating interventions (Demaray et al., 1995). The skills selected from the Taking Part curriculum of Sharing and Joining a Group are measured by several of the items on the SSRS-T.

Reliability data for internal consistency are reported in the manual (Gresham & Elliott, 1990). For the preschool form, an alpha of .94 was reported for the Social Skills Total Scale. Criterion-related validity evidence was reported for the SSRS and the CBCL (CBCL; Achenbach & Edelbrock, 1983). The SSRS Problem Behaviors Scale and the Child Behavior Checklist Total score correlated highly (r =. 81). Content validity was examined through analysis of importance ratings on items included in the SSRS-T. Preschool teachers rated Cooperation items and cooperation in the classroom as one of the most important goals during the preschool years. The SSRS has been used to effectively discriminate between students with behavior disorders, emotional disturbance, and those who are developmentally delayed (Stinnett, Oehler-Stinnett, & Stout, 1989) and between learning-disabled, mildly retarded, and nonreferred students (Bramlett, Smith, & Edmonds, 1994).

Teachers rated students using the SSRS-T, Preschool level before training and after each of two interventions.

Target Behaviors

Direct observation has been found to be the most commonly used method to measure the dependent variable in the 38 single-subject studies reviewed by Schnacker (1995). Behavioral observation has been endorsed as "one of the most valuable assessment methods for the young child" (p. 219; Martin, 1996) and has high face validity (Gresham & Elliott, 1984). The behavioral observations provided information on whether students were able to generalize the skills taught during the social skills training to other activities within the classroom as well as provided baseline data before intervention.

Target behaviors were the objective of the intervention and were defined as follows:

1. Sharing- was defined as the observed student jointly using a toy or materials with another student. Either student may have initiated sharing. For example, a student asks the student being observed for some blocks, the observed student gave the student a block. Sharing was coded as 1) student shared a toy or materials with another student, 2) student did not share toys or materials with another student.
2. Being in a Group – was defined as the observed student remaining in close proximity to at least one other student for the duration of the observation period. The student must have been observed to either talk

to, listen to, or look at the other student(s). Being in a Group was coded as; 1) student was in a group and, 2) student was not in a group.

Behavioral observation data were collected for three days during each of three assessment phases. Two observers entered the classroom and observed each student in the group using a time-sampling procedure. The target behavior observations were done by observing and recording in 15-second blocks each student in the group sequentially and in fixed order. The list was randomly ordered for each assessment. Each target behavior was observed for 20 intervals daily, 60 for each assessment phase, and 180 observations for the entire study. For each 15-second observation each observer completed a 2x5 table presented in Figure 2. Interobserver reliability of target behavior observations was calculated by dividing the number of rater agreements by the number of agreements plus disagreements and multiplying this by 100 as described by Alberto and Troutman (1990).

Figure 2. Target Behavior Observation Sheet

Sharing

	Interval 1	Interval 2	Interval 3	Interval 4	Interval 5
Yes					
No					

	Interval 6	Interval 7	Interval 8	Interval 9	Interval 10
Yes					
No					

Being in a Group

	Interval 1	Interval 2	Interval 3	Interval 4	Interval 5
Yes					
No					

	Interval 6	Interval 7	Interval 8	Interval 9	Interval 10
Yes					
No					

Possible Covariates

SES, Gender, Age, IQ, and Speech and Language scores served as possible covariates. The Hollingshead Four-Factor Index of Social Status (1975) was used to measure the multidimensional concept of social status as a measure of SES. The index uses occupation, years of schooling, and marital status to arrive at a numerical estimate of social status. Gender was used as a possible covariate. Gresham and Elliott (1990) found that boys score lower on the SSRS than do girls. Finally, IQ served as a possible covariate. Madden and Slavin (1983) found those students with IQ scores in the mid-70s benefited most from inclusion.

Procedure

Six of the classes were assigned to either treatment group A or B. The remaining three classes were assigned to Group C the no-treatment control group. Treatment Group A received the social skills training administered by a trained social skills instructor and assistant plus classroom reinforcement of target behaviors, while Group B received general time with the social skills trainers and classroom reinforcement of target behaviors. The social skills training was conducted in the classroom. The social skills trainers conducted lessons with the developmentally delayed student participants. The remainder of the class continued with the ongoing classroom activity under the guidance of the

teaching assistants. The teachers left the classroom during the social skills lessons. During general time with the social skills trainers the teacher also left the classroom and the instructor continued with the regularly scheduled activity. General time with the instructor was included for Group B to control for teacher awareness of which group was receiving social skills instruction. Social skills training lessons lasted approximately 20 to 30 minutes. No treatment was administered to the control group.

In the classroom, all participants in both Groups A and B were reinforced for engaging in target behaviors. After Group A had completed the social skills training, treatment Group B received the social skills training. Group C received no intervention or planned classroom reinforcement of target behaviors. The two intervention periods each lasted 8 days with 3-day assessment periods preintervention, after the first intervention, and after the second intervention. Assessment followed each intervention on the next school day. The preintervention was completed on a Wednesday, Thursday ,and Friday; the second assessment on a Thursday, Friday, and Monday; and the third assessment on a Friday, Monday, and Tuesday. Therefore, the first intervention ended on Wednesday, and the second intervention on a Thursday. The sequence of assessment and intervention was completed to provide the maximum intervention time and assessment data during the six-week summer

program.

Teachers and teacher assistants were trained to administer reinforcement for each target behavior prior to treatment intervention. Reinforcement was administered during free play to all students in the classroom. Verbal reinforcement in the form of praise was administered continuously to students who exhibited either of the target behaviors during free playtime. A total of 6 teachers and 12 assistant teachers administered reinforcement in the classroom.

Students participating in the study were evaluated for tangible reinforcement preferences individually. Nine items from the Reinforcement Inventory (Willis, LaVigna & Donnellan, 1987) were selected based on student preference to include edibles and stickers that were not typically available to students in school. Students were asked to state, point to, or select one item they liked best. For three 2-minute intervals during free play teachers and assistants provided preferred tangible reinforcers to students for target behaviors paired with verbal praise.

All student participants as well as the typical students not participating in the study had the opportunity to receive reinforcement for target behaviors. Sticker charts were used to monitor the use of stickers as reinforcement for all students. Reinforcement was also provided during a group activity that provided a salient model and vicarious learning

opportunity for other students.

To ensure treatment integrity, a trained observer randomly observed teachers and aides to ensure administration of reinforcement of target behaviors. The observer recorded the frequency of reinforcement for each target behavior for all students in a group. Observations were conducted twice daily for 5 minutes at random times during free play each treatment phase. For each 5 minute observation period, the observer completed a 2x2 table presented in Figure 3. When observations indicated reinforcement of target behavior was less than 80%, the experimenter re-trained teachers and assistants on implementation of reinforcement.

Figure 3. Frequency of Reinforcement

Sharing

	First Observation	Second Observation
Frequency of Target Behavior		
Frequency of Reinforcement		

Key:

✔ = Each incident of target behavior and each incident of reinforcement of target behavior

Being in a Group

	First Observation	Second Observation
Frequency of Target Behavior		
Frequency of Reinforcement		

Key:

✔ = Each incident of target behavior and each incident of reinforcement of target behavior

A trained early education teacher and assistant teacher conducted the social skills training. A treatment manual (Appendix A), developed by the experimenter was reviewed with the instructors and served as the basis for the social skills intervention. During the social skills intervention, students were given instruction in Joining a Group and Sharing. They had the opportunity to practice these skills using various materials in the small group. Activities included a motivational activity where the skill was presented during a short skit using puppets, followed by a modeling activity where students could practice the skill. Following the skill presentation,

students were given specific instruction and practice initiating interactions such as establishing eye contact with at least one group member, tapping another child on the shoulder to gain attention, and asking to play with others. Students were given specific activities that required sharing such as coloring using one box of six crayons and sharing play materials. Other activities included reading a book to the students on playing together followed by an interactive discussion on how playing with others was important in the story. A story focusing on sharing was also read and discussed with students. Structured social skills training was implemented in small groups of students to facilitate skill acquisition.

Each social skills training session was tape-recorded. Treatment integrity was evaluated by comparing the audio taped social skills training sessions with a predetermined protocol that evaluated treatment specific intervention components in the treatment manual to ensure the social skills training was conducted as intended. Two raters independently reviewed each tape and rated the sessions using the protocol (Appendix B).

Evaluation of social validity was conducted using a teacher and student survey. On the final day of the social skills intervention students were asked by the social skills trainer if they had fun playing and learning together. Responses were recorded on a data sheet for that purpose provided by the examiner.

After the final assessment phase, the examiner asked teachers to assess the relative value of the social skills training. The evaluation was based on experience with both treatment packages and the reinforcement alone components. The following questions were asked: Are the social skills of sharing and joining a group valuable to students in your class? Do you think the amount of time that was spent in training and administering the reinforcement was worthwhile? Were you pleased with the results? Would you like to learn more about this curriculum to teach students social skills in the future? The format of the questionnaire was open-ended and teachers were encouraged to answer the questions in the space provided.

The SSRS-T includes ratings of item importance for success in the classroom. For example, items can be rated for importance as; not important, important, or critical for success in the classroom. The data on importance ratings from the SSRS-T scales that were completed during each assessment phase were compiled and reviewed by the examiner.

All children were rated by teachers before intervention and after both intervention periods on the Social Skills Rating System-Teacher Form- Preschool Level (SSRS; Gresham & Elliott, 1990). Target behaviors for all students were observed and recorded by two trained observers using the procedure described in the Target Behaviors section before and after social skills training. Neither the teachers nor the trained observers knew

which groups were receiving which treatment. When observational data between the observers differed, the average of both observations was used.

Hypotheses

Based on a review of the literature, the following hypotheses were developed for this study:

HY1: At initial assessment before intervention, SSRS-T Social Skills Total scores of Groups A, B, and C will not differ significantly.

HY2: At initial assessment before intervention, number of target behaviors (Sharing and Being in a Group) for Groups A, B, and C will not differ significantly.

It was anticipated that Groups A, B, and C would not differ significantly on SSRS-T Social Skills Total or on behavioral observations of sharing and being in a group because students all meet eligibility criteria as a Preschool Student with a Disability and are then randomly assigned to classes.

HY3: At the second assessment, Group A will score significantly higher on SSRS-T Social Skills Total Score than Groups B and C, and Group B will score significantly higher on SSRS-T Social Skills Total than Group C.

HY4: At the second assessment, Group A and Group B will display significantly more target behaviors of Sharing and Being in a Group

than Group C, and Group A will display significantly more target behaviors than Group B.

The literature reviewed indicates that children with developmental disabilities have fewer social skills than typically developing children (Spicuzza et al., 1991) and that social skills training has been one method of effectively increasing social skills in this population (McConnell et al., 1991). It has been well documented that reinforcement will increase future occurrences of a behavior. It is anticipated that social skills training will improve skills beyond the effects of reinforcement alone. This is supported by evidence by Shuell (1986) who, in a review of learning, suggests that for durable changes to occur children must be actively involved in the learning process.

HY5: At the third assessment, Group A and Group B will score significantly higher on the SSRS-T Social Skills than Group C.

HY6: At the third assessment, Group A and Group B will display significantly more target behaviors of Sharing and Being in a Group than Group C.

Many students with developmental disabilities display deficits in social skills reducing the likelihood of gaining skills through exposure to age appropriate models. Therefore, simply placing special needs students into placements with typically developing peers will not ensure appropriate modeling of social behaviors (Bronson et al., 1995; Cooke & Apolloni,

1976). Specific training is required to ensure acquisition of social skills by developmentally delayed students. Programs that use behavioral techniques, modeling and rehearsal are more likely to show positive behavior change (Beelman et al., 1994). A review by DuPaul and Eckert (1994) indicates that classroom reinforcement will maintain social skills learned previously.

Chapter V

Results

This chapter presents data analyses and results. Specifically, correlation coefficients relating dependent variables to subject descriptive variables are given. Interrater reliability coefficients for behavioral observations are presented as well as evaluations of treatment integrity. Descriptive information regarding the SSRS-T scores and target behaviors of Sharing and Being in a Group for the three groups of participants for the three testing periods are given. Results of analyses of variance (ANOVAs) and covariance (ANCOVAs) as well as Tukey multiple comparisons tests are specified. Finally, data regarding the social validity of treatments are presented.

Subject Descriptors and Dependent Variables

Pearson Product Moment and point bi-serial correlation coefficients were calculated to evaluate the relationships of descriptive variables to dependent variables. Baseline scores for SSRS-T, Sharing, and Being in a Group were used in the correlations that are reported in Table 4. The relationship of subject descriptive characteristics to dependent variables are reported in Table 4.

Table 4

Correlation Coefficients of Dependent Variables with Descriptive Variables

	IQ	Speech	Gender	Age	SES
SSRS-T	.39***	.33**	.08	.27*	.04
Sharing	.07	.26*	-.04	.13	-.18
Being in a Group	-.02	.13	.05	.25	-.01

*p <.05. **p <.02. ***p<.004.

As noted from Table 4, IQ was significantly correlated with ratings on the SSRS-T but not with Sharing or Being in a Group. Speech and Language scores correlated significantly with both SSRS-T scores and Sharing, but not with Being in a Group. Age was significantly correlated with SSRS-T scores, but not with Sharing or Being in a Group. Gender and SES did not correlate with any of the dependent variables.

Variables that were significantly correlated with SSRS-T and Sharing were used as covariates in the ANCOVA analyses. Specifically, Speech and Language scores, IQ, and Age were used as covariates in the ANCOVA analyses of SSRS-T ratings, and Speech scores were used as the covariate in ANCOVA analyses of Sharing.

Reliability of Behavioral Observations

Reliability coefficients were calculated to evaluate interobserver

reliability of the two independent observers for behavioral observations of Being in a Group and Sharing. Reliability was computed by dividing the number of agreements by the number of agreements plus disagreements and multiplying by 100 (Alberto & Troutman, 1990). A reliability coefficient of .80 is recommended using this formula.

Interobserver reliability data were available for 86% of the 10,440 observations. The overall interobserver reliability was .88 for all observations. Interobserver reliability was calculated daily. When observations fell below 80% for an observation dyad, the examiner reviewed the target behaviors with the dyad and observed the collection of data during a mock observation or observed during actual data collection. Table 5 presents the average interobserver reliability for each assessment period by target behavior.

Table 5

Average Interobserver Reliability by Assessment and Target Behavior

Assessment Period	Sharing	Being in a Group	Total
First	.90	.88	.89
Second	.96	.90	.93
Third	.87	.82	.84
Total	.91	.86	.88

Treatment Integrity

To evaluate treatment integrity, two independent raters completed a treatment protocol checklist to evaluate the degree to which trainers followed the treatment manual. All treatment sessions were tape-recorded. The raters listened to the tapes and recorded whether critical components of the training were adhered to. (See Appendix B for the treatment protocol checklist). All sessions met 100% compliance to the treatment manual as scored by both raters for all training sessions.

A second measure of treatment integrity was obtained by recording the frequency of reinforcement administered by teachers in the classroom. An observer recorded the frequency of reinforcement and the frequency of each target behavior during each intervention phase. Observations were conducted twice daily for 5 minutes at random times during each treatment phase. For each 5-minute observation period, the observer completed a 2x2 table (see Figure 3). Reliability was computed by dividing the number of target behaviors paired with reinforcement by the number of target behaviors alone and multiplying by 100 (Alberto & Troutman, 1990). A reliability coefficient of .80 is recommended using this formula. Table 6 presents the average reliability of classroom reinforcement for Sharing, Being in a Group and combined total target behaviors by intervention phase.

Table 6

Average Reliability of Classroom Reinforcement by Target Behavior

Intervention	Sharing	Being in a Group	Total
First Intervention	.93	.80	.87
Second Intervention	.86	.82	.84
Total	.90	.81	.86

Reliability data for classroom observations was available for 82% of 180 possible observations. Eighteen percent of observations could not be conducted due to absences of the observers or scheduling conflicts with classroom activities. The average reliability of .86 was obtained for all observations. On three occasions when reliability fell below 80%, teachers and assistants were retrained on the administration of reinforcement and the target behaviors.

Statistical Analyses

Analyses of variance (ANOVA) and analyses of covariance (ANCOVA) were computed to compare the difference between Group A, Group B, and the Control group on the dependent variables (SSRS-T, Sharing, and Being in a Group for the first, second, and third assessments). Because of significant relationships between some dependent variables and some subject characteristics (see Table 4), Speech and Language test scores, IQ, and Age were used as covariates in

ANCOVA analyses of SSRS-T ratings, and speech scores as the covariate in ANCOVA analyses of sharing. Follow-up Tukey multiple comparisons tests were computed to further analyze the differences between groups when significant F scores were obtained. An alpha level of .05 was established for all statistical analyses. Table 7 presents the means and standard deviations for SSRS-T ratings, Sharing, and Being in a Group for Groups A, B, and C for the initial evaluation.

Table 7

Means and Standard Deviations for SSRS-T, Sharing, and Being in a Group for the Preintervention (Initial) Evaluation Period.

	Group A		Group B		Group C	
	M	SD	M	SD	M	SD
SSRS-T	81.95	20.23	76.89	16.57	79.75	15.37
Sharing	2.68	1.71	3.16	2.37	2.45	2.16
Being in a Group	4.13	2.88	4.16	3.59	2.70	2.42

Hypothesis 1 was confirmed. At the initial assessment before intervention, SSRS-T Social Skills Total scores of Groups A, B, and C did not differ significantly, F (2, 52) = 1.56, p>.05.

Hypothesis 2 was supported. At the initial assessment before intervention the number of target behaviors for Sharing for Groups A, B, and C did not differ significantly F (2, 55) = .57, p>.05. At the initial

assessment before intervention the number of target behaviors for Being in a Group for Groups A, B, and C did not differ significantly F (2, 55) = 1.53, p>.05.

Table 8 presents the means and standard deviations for SSRS-T ratings, Sharing, and Being in a Group for Groups A, B, and C for the Second Evaluation.

Table 8

Means and Standard Deviations for SSRS-T, Sharing, and Being in a Group for the Second Evaluation.

	Group A		Group B		Group C	
	M	SD	M	SD	M	SD
SSRS-T	89.89	20.11	82.63	15.35	78.30	13.89
Sharing	5.21	2.55	2.76	2.55	2.68	2.33
Being in a Group	10.62	4.19	9.58	3.22	2.75	1.91

Before the second assessment, Group A had received the Social Skills training combined with classroom reinforcement. Group B had received the classroom reinforcement only. Group C received no treatment. The third hypothesis was partially supported. Significant differences were found for SSRS-T scores at assessment two, F (2, 52) = 7.76, p< .001. At the second assessment, Group A scored significantly higher on SSRS-T Social Skills Total Score than Group C, g (2, 52) = 5.83,

p <.001, although Group B did not score significantly higher than Group C, q (2, 52) = 3.39, p >.05. Groups A and B did not differ, q (2, 52) = 2.45, p >.05.

The fourth hypothesis was partially supported. A significant difference was found for Sharing at the second assessment F (2, 54) =7.32, p< .002. An analysis of group mean scores indicated significantly different scores for Group A when compared to Group B, q (2, 54) = 4.07, p <.01, and to Group C, q (2, 54) = 5.11, p <.001 for sharing. Group B did not differ from the control group, q (2, 54) = 1.04, p >.05. A significant difference was also found for Being in a Group F (2, 55) =34.29, p < .001. Significant differences were found between treatment Groups A and C, q (2, 55) = 10.58, p <.001, and between Group B and C, q (2, 55) = 9.23, p <.001. Groups A and B did not differ, q (2, 55) = 1.35, p >.05.

Table 9 presents the means and standard deviations for SSRS-T ratings, Sharing, and Being in a Group for Groups A, B, and C at the third evaluation.

Table 9

Means and Standard Deviations for SSRS-T, Sharing, and Being in a Group for the Third Evaluation.

Table 9

	Group A		Group B		Group C	
	M	SD	M	SD	M	SD
SSRS-T	86.16	14.01	87.74	13.48	79.70	14.60
Sharing	5.71	3.06	5.00	3.24	2.83	2.30
Being in a Group	10.58	6.56	11.37	5.90	4.15	2.41

Treatments were then reversed such that before the third assessment, Group B received both treatments, the social skills training and classroom reinforcement; while Group A received only the reinforcement in the classroom as the generalization procedure. Group C received no treatment.

Hypothesis 5 was supported. At the third assessment significant differences were found between Groups A, B, and C on SSRS-T Social Skills total score, F (2, 52) = 5.73, p< .006. Group A scored significantly higher than group C, the control group, q (2, 54) = 4.26, p <.01, and Group B scored significantly higher than Group C, q (2, 54) = 4.44, p <.01. Group A and B did not differ, q (2, 54) = .17, p >.05.

Hypothesis 6 was supported. At the third assessment a significant overall difference was found between Groups for Sharing, F (2, 54) = 6.43, p < .003. Post hoc analyses showed that Group A scored significantly higher than group C, q (2, 54) = 4.83, p <.01 and Group B scored significantly higher than Group C, q (2, 54) = 4.03, p <.01. Group A and B did not differ q (2, 54) = .80, p >. 05. A significant overall difference was also found for Being in a Group, F (2, 55) = 11.2, p< .001. Group A scored significantly higher than Group C, q (2, 55) = 5.36, p <.001, and Group B scored significantly higher than Group C, q (2, 55) = 6.02, p <.001. Group A and B did not differ significantly, q (2, 55) = .66, p >. 05.

Table 10 presents a tabular summary of results of post hoc analyses showing that Hypotheses 1, 2, 5, and 6 were confirmed, and Hypotheses 3 and 4 were partially confirmed. For hypothesis 3 to have been confirmed, Group A would have to had significantly exceeded group B results for SSRS-T, and Group B would have had to significantly exceeded Group C. For Hypothesis 4 to have received full confirmation, Group B would have to had significantly exceeded Group C results for Sharing and Group A would have had to significantly exceed Group B results for Being in a Group.

Table 10

Results of Post Hoc Analyses for SSRS-T Scores, Sharing, and Being in a Group for Comparison Groups at Each Assessment Period

Dependent Variable	Assessment Period: Preintervention (1st Assessment)	Post Intervention 1 (2nd Assessment)	Post Intervention 2 (3rd Assessment)
SSRS-T	A = B	A = B	A = B
	A = C	A >C***	A > C**
	B = C	B = C	B > C**
Sharing	A = B	A > B**	A = B
	A = C	A > C***	A > C**
	B = C	B = C	B > C**
Being in a Group	A = B	A = B	A = B
	A = C	A > C***	A> C***
	B = C	B > C***	B > C***

* $p<.05$ ** $p<.01$ *** $p<.001$

The effect size (d) was calculated by subtracting the mean of the control group from the mean of the experimental group and dividing by the standard deviation of the control group (Borg & Gall, 1989, p.172) for each dependent variable.

Table 11 reports the effect sizes for the two experimental groups (Groups A and B). Eight of the 12 effect sizes reported were large, exceeding .80 (Cohen, 1992). One effect size was medium, exceeding .50, and 2 were small, exceeding .20 (Cohen, 1992). For Group A, the initial intervention of social skills plus classroom reinforcement produced large increases over the other groups in target behaviors and social skills ratings. These large effects were still apparent for target behaviors when Group A was shifted to just classroom reinforcement of target behaviors. For Group B, only a large increase in Being in a Group was associated with classroom reinforcement alone. When Group B received both social skills training and classroom reinforcement, target behaviors showed large effect sizes comparable to those achieved by Group A.

Table 11

Treatment Effect Sizes for Groups A and B Relative to No Treatment Controls

	Effect Size - Group A	
	Second Assessment	Third Assessment
Sharing	1.08	1.25
Being in a Group	4.12	2.66
SSRS-T	.83	.44

	Effect Size - Group B	
	Second Assessment	Third Assessment
Sharing	.03	.94
Being in a Group	3.59	2.99
SSRS-T	.31	.55

Social Validity of Treatments

As a measure of social validity, teachers completed a brief questionnaire after the final assessment and at the conclusion of the study. The examiner asked teachers to evaluate the relative value of the social skills training. Ratings were based on experience with both the treatment packages and the reinforcement alone components. The following questions were asked: Are the social skills of sharing and joining a group valuable to students in your class? Do you think the amount of time that was spent in training and administering the reinforcement was worthwhile?

Were you pleased with the results? Would you like to learn more about this curriculum to teach students social skills in the future? The format of the questionnaire was open-ended and teachers were encouraged to answer the questions in the space provided.

Five of the 6 teachers returned the questionnaire. The responses were predominantly positive, with the exception of one teacher who did not feel the program was worthwhile. This teacher was also often uncooperative during the study, and was resentful of the changes in scheduling made to accommodate the skills training. All of the other teachers felt the skills of joining and sharing were important for their students. Seven of the teachers commented that it was more valuable for some students than for others. One teacher was unsure whether the amount of time invested in the training program was worth the perceived gains for students, although eight of the teacher believed the amount of time was well worth the effort. One teacher commented that she did not approve of using tangible reinforcers with students, but otherwise thought the program was valuable. Four teachers commented that some but not all of the children benefited from this type of training.

At the conclusion of the study, several teachers requested additional information of the social skills curriculum. Teachers were given preliminary feedback on the results of the study, and the curriculum was introduced and reviewed. The teachers expressed an interest in using parts of the

curriculum based on the positive response they had observed during the summer program. Again, some teachers expressed concern regarding the appropriateness or potential benefit for all students, particularly those with severe developmental disorders such as autism. This same concern was voiced by the social skills instructors when they were interviewed by the investigator at the conclusion of the study.

Teachers were asked to complete the importance ratings on the SSRS-T rating scale. This scale rates the importance that teachers place on each of the 30 social skills assessed by the SSRS-T. Teachers rate each item as either not important, important, or critical for success in the classroom. Eight questions related to the target behaviors of Being in a Group and Sharing were selected for review.

With the exception of one item, teachers rated all skills as either important or critical for functioning in their classroom. This information lends further support for the importance of incorporating this social skills program in preschool.

As a second measure of social validity students were asked, "Did you have fun playing and learning together?" All but 8 of the 58 students said "yes". Seven students did not respond and one said "no". Overall, the social skills instructors reported that students appeared to enjoy the sessions. They participated to their level of ability and were interested in the way materials were presented.

Chapter VI

Discussion

This chapter summarizes and discusses the results. The clinical significance of the study is addressed. Finally, limitations and recommendations for future research are presented.

This study investigated the impact of a brief social skills program on the social behaviors of developmentally delayed preschool children enrolled in integrated classes. Treatment groups were equal prior to intervention with regard to frequency of target behaviors and SSRS-T scores. In addition, groups were similar across age, SES, IQ, speech and language test scores, and gender composition. The research design permitted the examination of; 1) the social skills training plus classroom reinforcement of target behavior versus classroom reinforcement of target behaviors alone, 2) social skills training plus classroom reinforcement of target behaviors versus no intervention, 3) classroom reinforcement of target behaviors alone versus no intervention. The design also permitted the evaluation of the extent to which classroom reinforcement of target behaviors alone maintains effects of social skills training plus classroom reinforcement of target behaviors.

The results indicate that the Taking Part (Cartledge & Kleefeld, 1991) social skills program incorporated into the curriculum and combined with reinforcement of target behaviors in class was effective in increasing

social behaviors of delayed preschoolers. In addition to increasing the frequency of being in a group and sharing, ratings made by teachers who were unaware of participants' treatment condition assignment on the Social Skills Rating Scale (SSRS-T) also improved. Further, these gains were maintained by classroom reinforcement alone.

Some important differences were found with regard to treatment type and target behavior. After the initial intervention, Group A, which received the combined social skills and classroom reinforcement of target behaviors treatment, had significantly higher frequencies of Sharing and Being in a Group than the no-treatment controls (Group C). Group B, however, after receiving only classroom reinforcement for target behaviors, also had significantly higher frequencies of Being in a Group than control participants. Thus, social skills training did not add to the effects of the reinforcement alone condition for this target behavior. In contrast, Group A obtained significantly higher frequencies of Sharing behavior than Groups B and C which did not differ from each other. Therefore, reinforcement alone did not increase Sharing.

These results may be partially explained by how these target behaviors were typically treated in the classroom prior to the beginning of the study. Teachers commented that sharing is a behavior that was often encouraged during classroom activities, whereas being part of a group was

not. Students may have already been reinforced for Sharing, but not as consistently as they were during the study, and therefore may have exhibited this behavior at a higher rate than Being in a Group. This explanation may account for the smaller effect sizes found for Sharing across groups, and the significant difference found only when social skills training was added to classroom reinforcement. Being in a Group, which was less often encouraged, increased rapidly when either reinforcement alone or the combined treatment conditions were administered.

Social validity was measured using several different procedures. Teachers were asked for feedback and completed a four-item questionnaire. Although most of the teachers responded favorably to items, some concerns were raised regarding the value of a social skills training program for all students given the diversity and range of functioning within the population. A second concern was the amount of time needed to implement the social skills training sessions and the reinforcement.

Students were asked for their input to determine whether they enjoyed the program. Most students responded positively, although some students appeared not to understand or have the ability to respond.

This study examined a short-term intervention for two social skills from the Taking Part (Cartledge & Kleefeld, 1991) curriculum. This

curriculum covers 33 social skills that may be taught to children from preschool through grade three. The social skills used in this study were appropriate for preschool students. Other skills might also be appropriate for this population from this curriculum, which have not been evaluated. The efficacy of this curriculum as a whole cannot not be determined from the obtained results and needs further exploration.

Social skills groups were conducted over an eight-day period during which two skills were taught. The optimal amount of training needed to improve skills may be more or less than eight days and warrants further investigation.

From this study, there is limited information on the maintenance of skills over a longer time period. The final assessment was conducted two weeks after the initial social skills intervention. Follow-up assessment of the students would have been informative after 1 month or longer to evaluate maintenance and generalization effects. It was not possible to conduct follow up on these students as most of them graduated at the end of the summer session.

This study selected only the developmentally delayed students for the training. This was done to ensure that groups would be small and students would have more opportunity to rehearse, practice new skills, and obtain reinforcement. The typical students were not included in the social

skills training. This limited the opportunity for the developmentally delayed students to practice these skills with their typically developing peers.

Data was collected on the number of times reinforcement was administered in the classroom for each target behavior, but not on the frequency of reinforcement for each student with the exception of sticker charts. Sticker charts provided information on frequency only of stickers as reinforcement, but not on verbal or tangible rewards. Some students may not have displayed the target behaviors, and consequently not received reinforcement. This would impact the acquisition of skills and the applicability of current results to other groups of students.

The crossover design used for this study has some limitations. Specifically, no information on treatment effects can be obtained from Group B after the second intervention (combined treatment) as it was confounded by the combined treatment that followed. Other treatment groups could also have been included in the design if more subjects were available such as social skills or reinforcement only groups.

Inferences from the results can only be applied to students with similar characteristics. The population was comprised predominantly of students within the mildly deficient range of intellectual functioning, with obtained speech and language scores commensurate with mild delays. The Social Skills Rating Scale was used as a standardized measure and

was not used to identify individual weaknesses in the student population. Future studies may use this instrument as a tool to identify target social skills prior to treatment implementation.

Finally, there is the possibility that the coefficient used to estimate interrater reliability might include observations that are due to chance. This is a weakness of interrater reliability calculated using a percentage of agreement formula.

Social skills deficits broadly impact educational outcomes and teachers report a great need for readily available social skills curricula. Results of this research indicate that the Taking Part program can be used by teachers in the classroom and is non-aversive and follows established behavioral principles. This program can be used to teach developmentally delayed preschoolers the social skills they need to interact more effectively with their peers.

Appendix A

Treatment Manual

The social skills trainer and assistant followed the procedures outlined below during phases two and four of the social skills training program.

Materials List

Taking Part manual

Squirrel, hawk, turtle, rabbit, and bear puppets from Taking Part kit, a book made of construction paper that can be torn, a large children's book, large blocks, and stickers from Taking Part kit

Day One

Trainer reviewed the procedure

"We are going to be playing together everyday this week. Some days we will read a story together. The stories will be about sharing toys and play with our friends. After we read the story, you will all have a turn to hold one of the puppets and we can all tell the story together again. Then we will talk about the story, and I will give out sticker (show stickers) to everyone who is listening. You can stop any time you want. Do you want to play?

Trainer and Assistant enacted the story Sharing Materials using the puppets provided

Trainer engaged the students in an enactment of the story using the puppets.

Trainer assigned 3 students to be the squirrel, hawk, and turtle. The trainers reviewed with each student the animal puppet they are holding. The trainers read the story and prompted students to enact the story with the puppet s and repeat the trainer (if possible). Trainers allowed each student to select a Taking Part sticker.

Trainer: "Today we learned how we can share with our friends. When you are in class today, I want each of you to share with your friends the way Hank Hawk and Shelli Squirrel learned to. Your teachers will be giving everyone special stickers like the ones I just gave you when you share with your friends."

Day Two

Trainer and assistant reviewed the story read on day one.

"Yesterday we read a story about sharing. Does anyone remember what it was about? (If no volunteers) It was about learning to share a book without tearing it with our friends. Today we are going to practice ways we can share things together".

One piece of paper was distributed to every other child, (if there was an uneven number students formed a group of 3) and the remaining materials were placed evenly between all children. The students were instructed to

make something for their teacher. Students were prompted to work in a group and use the same materials. The skill steps were reviewed:

1. Think of what you want to do.

2. Think of how you can do it together.

3. Agree on a way to do it together.

Stickers were given to all students who shared during the activity.

The same procedure was repeated using books and blocks.

Students were reinforced using stickers if they shared with another student.

Homework: "Remember to share with your fiends in class. Find a friend today to share something with and tell us about it tomorrow."

Day Three

Trainer asked students about the friend/activity they shared with yesterday. Prompting and reminders were used when needed. Example were given of sharing, and students were encouraged to recall any shared events.

Trainer and Assistant enacted the story Sharing Materials using the puppets provided

Trainer and assistant engaged the students in an enactment of the story using the puppets. Trainers assigned three students to be the squirrel, hawk, and turtle. The animal puppets were reviewed. The trainer read the story and prompted students to engage with the puppets and repeat the trainers (if possible).

Trainers allowed students to select a Taking Part sticker.

Trainer: "today we learned how we can share with our friends. When you are in class today, I want each of you to share with your friends the way Hank Hawk and Shelli Squirrel learned to. Your teachers will be giving everyone special stickers like the ones I just gave you when you share with your friends."

Day Four

Trainer: "Today we are going to read another story together. This story is about joining a group or playing with friends"

Trainer and Assistant enacted the story Joining a Group Activity using the puppets provided

Trainer and assistant engaged the students in an enactment of the story using the puppets. Trainers assigned 4 students to be the, rabbit, squirrel, hawk, and bear. The animal puppets they were given were reviewed. The trainer and assistant read the story and prompted students to engage with the puppets and repeat the trainers (if possible).

Trainer allows each student to select a Taking Part sticker.

Trainer: "today we learned how we can join together with our friends and play. When you are in class today, I want each of you to play with your friends the way Will, Hank, Shelli, and Sara learned to. Your teachers will

be giving everyone special stickers like the ones I just gave you when you join your with your friends. "

Day Five

Trainer and assistant reviewed the story read on day four.

"Yesterday we read a story about joining a group. Does anyone remember what it was about? (If no volunteers) It was about learning to join a group of friends and play together. Today we are going to practice ways we can join a group together. We are going to play a game called In Circles We Go. First we will review the steps we learned yesterday".

The skill steps were reviewed

1. Go up to a person in the group.
2. Make eye contact and smile
3. Ask politely if you may join
4. Check that the person has understood you

Materials: Audiocassette player; audiocassette of familiar music, stickers

In Circles We Go

(See attached)

Students who shared during the activity were given stickers.

The same procedure using books and blocks was repeated.

Students were reinforced using stickers if they have shared with another student.

Day Six

Trainers engaged the students in an enactment of the Joining a Group story using the puppets. Trainers assigned four students to be the rabbit, squirrel, hawk, and bear. Puppets were reviewed. The trainer read the story and prompted students to engage with the puppet and repeat the trainers (if possible). Trainers allowed students to select a Taking Part sticker.

Day Seven

Trainer engages the students in an enactment of the two stories, Sharing, and Joining a Group using the puppets.

Sharing

1) Trainer assigned three students to be the squirrel, hawk, and turtle. The animal puppets they were reviewed. The trainer read the story and prompted students to engage with the puppet and repeat the trainer (if possible).

The skill steps were reviewed:

1. Think of what you want to do,
2. Think of how you can do it together,
3. Agree on a way to do it together.

Joining a Group Activity

Trainer assigned four students to be the rabbit, squirrel, hawk, and bear. The animal puppets were reviewed. The trainer read the story and

prompted each student to engage with the puppet and repeat the trainer (if possible).

The skill steps were reviewed:

Being in a group

1 Go up to a person in the group.

2 Make eye contact and smile

3 Ask politely if you may join

4 Check that the person has understood you

At the end of this session each child was asked by the trainer "Did you have fun playing and learning together?" Responses were recorded on the form provided.

Day Eight

The trainer assigned "homework" to the students. Students were instructed to choose a play partner who was not in the group. (This encouraged children to interact with nondisabled peers). If they did not choose, the trainers assigned a peer to them. They were then instructed to teach the peer what they had learned in the group. The skills were again reviewed for both sharing and being in a group. The students practiced the skills in the group with a partner from the group.

Sharing- skill steps

1. Think of what you want to do.

2. Think of how you can do it together.

3. Agree on a way to do it together.

Being in a Group- skill steps

1. Go up to a person in the group.

2. Make eye contact and smile

3. Ask politely if you may join

4. Check that the person has understood you

Appendix B
Treatment Protocol

Day One

____ Trainer was prepared with needed materials

____ Trainer reviewed the procedures

____ Trainer followed the story

____ Trainer engaged the students in the reenactment of the story

____ Trainer provides stickers

Day Two

____ Trainer was prepared with needed materials

____ Trainer reviewed the story

____ Trainer followed the practice activity

____ Trainer reviewed the skills steps

____ Trainer provided stickers

Day Three

____ Trainer was prepared with needed materials

____ Trainer reviewed the procedures

____ Trainer followed the story

____ Trainer engaged the students in the reenactment of the story

____ Trainer provides stickers

Day Four

____ Trainer was prepared with needed materials

____ Trainer reviewed the story

____ Trainer followed the practice activity

____ Trainer reviewed the skills steps

____ Trainer provided stickers

Day Five

____ Trainer was prepared with needed materials

____ Trainer reviewed the stories

____ Trainer facilitated the enactments

____ Trainer reviewed the skills steps

____ Trainer provided stickers

Day Six

____ Trainer was prepared with needed materials

____ Trainer reviewed the story

____ Trainer followed the practice activity

____ Trainer reviewed the skills steps

____ Trainer provided stickers

Day Seven

____ Trainer was prepared with needed materials

____ Trainer reviewed the stories

____ Trainer reviewed the skill steps

____ Trainer asked students "Did you have fun playing and learning together?"

____ Trainer provided stickers

Day Eight

____ Trainer reviewed the skills steps

____ Trainer assigned homework to students

choose a play partner not in the group
encourage children to teach partner what they learned in group

____ Trainer followed the practice activity

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THE CITY UNIVERSITY OF NEW YORK

PH.D. PROGRAM IN EDUCATIONAL PSYCHOLOGY

33 WEST 42 STREET, NEW YORK, NY 10036-8099
212 642-2261

Informed Consent

Investigator: Hindi M. Guglielmo (718) 428-5370
Advisor: Georgiana Tryon (212) 642-2270

I am conducting a study on social skills this year as part of my doctoral training at The Graduate School and University Center of the City University of New York. The purpose of the study is to better understand how children learn to interact and socialize with each other. It is possible that your child may benefit from this program by developing more cooperative and sharing behaviors.

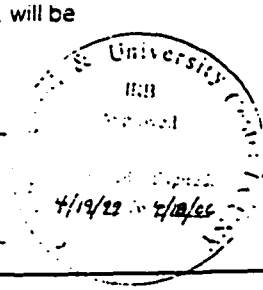
Your child's participation in this study will involve the completion of a social skills rating scale by the teachers, and participation in a group social skills training program. Hindi Guglielmo, the primary investigator will conduct the training program over a 5-week period. The program will focus on teaching children basic social skills such as interacting with peers and sharing. Ten 20-minutes training sessions will be conducted. Children's sharing and cooperative peer interactions will be assessed by behavioral observation.

Participation is voluntary, and you may withdraw consent at any time. Deciding not to have your child participate, will in no way influence the educational opportunities available to your child. You may withdraw your child from participating at any time without penalty. To ensure that no personally identifying information is made available, all data will be coded. All data will be kept in a locked file with sole access to the primary investigator. Results will be reported as group results and will not identify any individual child.

Please contact Hindi Guglielmo, at (718) 428-5370 or Georgiana Tryon, dissertation advisor, at CUNY Graduate School and University Center at (212) 642-2270 if you have any questions about this study. If you have questions about rights as a participant, call Hilry Fisher, Sponsored Research/Graduate School and University Center/CUNY at (212) 642-2059

I understand what is being asked of me, and have had all questions answered. My signature indicates that I understand the purpose of the study and agree to have my child participate

Following parental consent and assignment to treatment groups, students not wishing to participate in the group, expressed through either verbal or behavioral means, will be removed from the study.



Parent/Guardian _____ Date _____

Hindi M. Guglielmo _____ Date _____

American Psychiatric Press, Inc

November 23, 1999

Hindi Guglielmo, MS
148-03 9th Avenue
Whitestone, NY 11357

Dear Ms. Guglielmo,

I am responding to your 11/9/99 request to reprint the diagnostic criteria **for Mental Retardation, Expressive Language Disorder, Mixed Receptive-Expressive Language Disorder, Phonological Disorder, Stuttering, Autistic Disorder, Rett's Disorder, Childhood Disintegrative Disorder, Asperger's Disorder, Attention-Deficit/Hyperactivity Disorder, Conduct Disorder, Oppositional Defiant Disorder** from the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*. This information is to be used in your dissertation.

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Sincerely,

Ronald E. McMillen

Ronald E. McMillen
Director of Publications

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References

Achenbach, T.M., & Edelbrock, C.S. (1983). Manual for the Child Behavior Checklist and Revised Child Behavior Profile. Burlington, VT: University of Vermont Department of Psychiatry.

Alberto, P.A., & Troutman, A.C. (1990). Applied behavior analysis for teachers. Englewood Cliffs, NJ: Prentice-Hall.

American Psychiatric Association: (1968). Diagnostic and statistical manual of mental disorders (second edition). Washington, DC: Author.

American Psychiatric Association: (1980). Diagnostic and statistical manual of mental disorders (third edition). Washington, DC: Author.

American Psychiatric Association: (1987). Diagnostic and statistical manual of mental disorders (third edition, revised). Washington, DC: Author.

American Psychiatric Association: (1994). Diagnostic and statistical manual of mental disorders (fourth edition). Washington, DC: Author.

Arnold, L. E., & Jensen, P.S. (1995). Attention deficit disorder. In H.I. Kaplan & B.J. Sadock (Eds.), Comprehensive textbook of psychiatry/VI (pp. 2295-2310). Baltimore, MD: Williams, & Wilkins.

Baker, L., & Cantwell, D.P. (1995). Learning disorders, motor skills disorder, and communication disorders. In H.I. Kaplan & B.J. Sadock

(Eds.), Comprehensive textbook of psychiatry/VI (pp. 2243-2276) Baltimore, MD: Williams, & Wilkins.

Baker, E.T., Wang, M.C., & Walberg, H.J. (1995). The effects of inclusion on learning. Educational Leadership, 53, 33-35.

Bandura, A. (1977). Social learning theory. Englewood Cliffs, NJ: Prentice Hall.

Bayley, N. (1993). Bayley Scales of Infant Development (2nd ed.). San Antonio, TX: The Psychological Corporation.

Beckman, P.J., & Kohl, F.L. (1984). The effects of social and isolate toys on the interactions and play of integrated and nonintegrated groups of preschoolers. Education and Training of the Mentally Retarded, Education and Training of the Mentally Retarded, 19, 169-174.

Beckman, P.J., & Kohl, F.L. (1987). Interactions of preschoolers with and without handicaps in integrated and segregated settings: A longitudinal study. Mental Retardation, 25, 5-11.

Beelmann, A., Pfingsten, U., & Losel, F. (1994). Effects of training social competence in children: A meta-analysis of recent evaluation studies. Journal of Clinical Psychology, 3, 260-271.

Borg, W. R., & Gall, M.D. (1989). Educational research: An introduction (fifth edition). White Plains, NY: Longman.

Bramlett, R.K., & Smith, B.L., Edmonds, J. (1994). A comparison of nonreferred, learning-disabled, and mildly mentally retarded students

utilizing the Social Skills Rating System. Psychology in the Schools, 31, 13-19.

Bregman, J.D., & Harris, J.C. (1995). Mental Retardation. In H.I. Kaplan & B.J. Sadock (Eds.), Comprehensive textbook of psychiatry/VI (pp.2207-2241). Baltimore, MD: Williams, & Wilkins.

Bricker, D.D. (1978). A rationale for the integration of developmentally delayed and nondisabled preschool children. In M.J. Guralnick (Ed.), Early intervention and the integration of developmentally disabled and nondisabled children. Baltimore: University Park Press, 1978.

Bronson, M.B., Hauser-Cram, P., & Warfield, M.J. (1995). Classroom behaviors of preschool children with and without developmental disabilities. Journal of Applied Developmental Psychology, 16, 371-390.

Brown, T.B. (1988). Increasing social competency in preschool children. (ERIC Document Reproduction Service No. ED 300 106)

Brown, W.H., Ragland E.U., & Fox, J.J. (1988). Effects of group socialization procedures on the social interactions of preschool children. Research in Developmental Disabilities, 9, 359-376.

Bryant, L.E., & Budd, K.S. (1984). Teaching behaviorally developmentally disabled preschool children to share. Journal of Applied Behavior Analysis, 17, 45-56.

Caldarella, P., & Merrell, K.W. (1997). Common dimension of social skills of children and adolescents: A taxonomy of positive behaviors. School Psychology Review, 26, 264-278.

Campbell, M., & Shay, J. (1995). Pervasive developmental disorders. In H.I. Kaplan & B.J. Sadock (Eds.), Comprehensive textbook of psychiatry/VI (pp. 2277-2293). Baltimore, MD: Lippincott, Williams, & Wilkins.

Cartledge, G., & Kleefeld, J. (1991). Manual. Taking Part, Introducing Social Skills to Children. Circle Pines, MN: American Guidance Service.

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.

Cohen, J. (1992). A power primer. Psychological Bulletin, 112, 155-159.

Coie, J.D., & Dodge, K.A (1983). Continuities and changes in children's social statues: A five-year longitudinal study. Merrill-Palmer Quarterly, 29, 261-281.

Cole, K.N., Mills, P.E., Dale, P.S., & Jenkins, J.R. (1991). Effects of preschool integration for children with disabilities. Exceptional Children, 58, 36-45.

Cooke, T.P., & Apolloni, T. (1976). Developing positive social-emotional behaviors: A study of training and generalization effects. Journal of Applied Behavior Analysis, 9, 65-78.

De Haas-Warner, S.J., (1991). Effects of self-monitoring on preschoolers' on-task behavior: A pilot study. Topics in Early Childhood Special Education, 11, 59-73.

Demaray, M.K., Ruffalo, S.I., Carlson, J., Busse, R.T., Olson, A.E., McManus, S.M., & Leventhal, A. (1995). Social skills assessment: A comparative evaluation of six published rating scales. School Psychology Review, 24, 648-671.

Doll, B. (1996). Children without friends: Implications for practice and policy. School Psychology Review, 25, 165-183.

DuPaul, G.J., & Eckert, T.L. (1994). The effects of social skills curricula: Now you see them, now you don't. School Psychology Quarterly, 9, 113-132.

Edmister, P., & Ekstrand, R.E. (1985). Discussion of mainstreaming and intensity of service issues. (ERIC Document Reproduction Service No. ED 264 709).

Farington, D.P. (1986). Stepping stones to adult criminal careers, In D. Olweus, J.D. Block, & M. Radke-Yarrow (Eds.), Development of

antisocial and prosocial behavior: Research, theories and issues (pp. 359-384). New York: Academic Press.

Faught, K.K., Balleweg, B.J., Crow, R.E., & Van Den Pol, R.A. (1983). An analysis of social behaviors among developmentally disabled and nondisabled preschool children. Education and Training of the Mentally Retarded, 18, 210-214.

Federlein, A. C. (1982). Special education preschoolers: Evaluating their play. Paper presented at the Annual Meeting of the American Educational Research Association. (ERIC Document Reproduction Service No. ED 221 004).

Fuchs, D., & Fuchs, L.S. (1993). Inclusive schools movement and the radicalization of special education reform. National Institute of Child Health and Human Development (NIH), Bethesda, MD: Special Education Programs. (ERIC Document Reproduction Service No. ED 364 046).

Gentry, B. (1983). Does mainstreaming insure integration? Kansas University, Lawrence. Early Childhood Institute. (ERIC Document Reproduction Service No. ED 231 108).

Glass, G. (1983). Effectiveness of special education. Policies Studies Review, 2, 65-72.

Gloeckler, L.C. (1998). Report on Disability Issues, February 6, 1998. New York State Education Dept., Albany.

Gresham, F.M. (1981a). Social skills training with developmentally disabled children: A review. Review of Educational Research, 51, 139-176.

Gresham, F.M. (1981b). Assessment of children's social skills. Journal of School Psychology, 19, 120-133.

Gresham, F.M. (1982). Misguided mainstreaming: The case of social skills training with handicapped children. Exceptional Children, 48, 422-433.

Gresham, F.M., & Elliott, S.N. (1984). Assessment and classification of children's social skills. A review of methods and issues. School Psychology Review, 13, 292 -301.

Gresham, F.M., & Elliott, S.N. (1990). Social Skills Rating System Manual. Circle Pines, MN: American Guidance Service.

Guralnick, M.J. (1978). Integrating developmentally disabled and non disabled preschool children. Final report. Ohio State University, Columbus. Dept of Communication.

Guralnick, M.J. (1980). Social interactions among preschool children. Exceptional Children, 46, 248-253.

Guralnick, M.J. (1990). Major accomplishments, and future directions in early childhood mainstreaming. Topics in Early Childhood Special Education, 10, 1-17.

Guralnick, M.J. (1992). A hierarchical model for understanding children's peer-related social competence. In S.L. Odom, S.R. McConnell, & M.A. McEvoy (Eds.), Social competence of young children with disabilities: Issues and strategies for intervention (pp. 37-64). Baltimore, Brookes.

Guralnick, M.J., & Groom, J.M. (1987). The peer relations of mildly delayed and nondisabled preschool children in mainstreamed playgroups. Child Development, 58, 1556-1572.

Guralnick, M.J., & Groom, J.M. (1988). Peer interactions in mainstreamed and specialized classrooms: A comparative analysis. Exceptional Children, 54, 415-425.

Guralnick, M.J., & Weinhouse, E.M. (1984). Peer-related social interactions of developmentally delayed young children: Development and characteristics. Developmental Psychology, 20, 815-827.

Hanline, M.F. (1985). Integrating disabled children. Young Children, 40, 45-48.

Harris, S.L., Glasberg, B., & Ricca, D. (1996). Pervasive developmental disorders: Distinguishing among subtypes. School Psychology Review, 25, 308-315.

Hauser-Cram, P., Bronson, M.B., & Upshur, C.C. (1993). The effects of the classroom environment on the social and mastery behavior of

preschool children with disabilities. Early Childhood Research Quarterly, 8, 479-497.

Hollingshead, A.B. (1975). Four factor index of social status. New Haven, CT: Yale University.

Honig, A.S., & McCarron, P.A. (1987). Prosocial behaviors of developmentally disabled and community peers in an integrated preschool. Paper presented at the Biennial Meeting of the Society for Research in Child Development (Baltimore, MD, April 23-26, 1987).

Hundert, J., & Houghton A. (1992). Promoting social interaction of children with disabilities in integrated preschools: a failure to generalize. Exceptional Children, 58, 311-320.

Jenkins, J.R., Odom, S.L., & Speltz, M.L. (1989). Effects of social integration on preschool children with handicaps. Exceptional Children, 55, 420-428.

Jenkins, J.R., Speltz, M.L., & Odom, S.L. (1985). Integrating normal and developmentally disabled preschoolers: Effects on child development and social interaction. Exceptional Children, 52, 7-17.

Johnson, J.E., & Ershler, J.L. (1985). Social and cognitive play forms and toy use by nondisabled and developmentally disabled preschoolers. Topics in Early Childhood Special Education, 5, 69-82.

Kamps, D.M., Ellis, C., Mancina, C., & Greene, L. (1995). Peer-inclusive social groups for young children with behavioral risks. Preventing School Failure, 39, 10-15.

LeBlanc, L.A., & Matson, J.L. (1995). A social skills training program for preschoolers with developmental-delays. Behavior Modification, 19, 234-246.

Madden, N.A., & Slavin, R.E. (1983). Mainstreaming students with mild handicaps: Academic and social outcomes. Review of Educational Research, 53, 519-569.

Martin, R.P. (1986). Assessment of the social and emotional functioning of preschool children. School Psychology Review, 15, 216-232.

Matson, J.L., Fee, V.E., Coe, D.A., & Smith, D. (1991). A social skills program for developmentally delayed preschoolers. Journal of Clinical Child Psychology, 20, 428-433.

McAllister, J. R. (1991). Curriculum-based behavioral interventions for preschool children with handicaps. Topics in Early Childhood Special Education, 58, 48-58.

McConnell, S.R. (1987). Entrapment effects and the generalization and maintenance of social skills training for elementary school students with behavioral disorders. Behavioral Disorders, 12, 252-263.

McConnell, S.R., Sisson, L.A., Cort, C.A., & Strain, P.S. (1991). Effects of social skills training and contingency management on reciprocal interaction of preschool children with behavioral handicaps. The Journal of Special Education, 24, 473-495.

Mize, J., & Ladd, G.W. (1990). A cognitive-social learning approach to social skill training with low-status preschool children. Developmental Psychology, 26, 388-397.

Moore, L.A. (1994). The effects of social skills curricula: Were they apparent initially? School Psychology Quarterly, 9, 133-136.

New York State Education Department. (1993). Update Part 200 Regulations of the Commissioner of Education. Albany, NY: Author.

Nientimp, E.G., & Cole, C.L. (1992). Teaching socially valid social interaction responses to students with severe disabilities in an integrated school setting. Journal of School Psychology, 30, 343-354.

Oden, S., & Asher, S.R. (1977). Coaching children in social skills for friendship making. Child Development, 48, 495-506.

Odom, S.L., Hoyson, M. Jamieson, B., & Strain, P.S. (1985). Increasing developmentally disabled preschoolers' peer social interactions: Cross-setting and component analysis. Journal of Applied Behavior Analysis, 18, 3-16.

Odom, S.L., McConnell, S.R., & Chandler, L.K. (1993). Acceptability and feasibility of classroom-based social interaction interventions for young children with disabilities. Exceptional Children, 60, 226-236.

Odom, S.L., McConnell, S.R., & McEvoy, M.A. (1992). Social competence of young children with disabilities: Issues and strategies for intervention. Baltimore, MD: Brookes.

Odom, S.L., & McEvoy, M.A. (1988). Integration of young children with handicaps and normally developing children. In S. Odom & M. Karnes (Eds.), Early intervention for infants and children with handicaps: An empirical base (pp. 241-267.). Baltimore: Paul H. Brookes Publishing Co.

Odom, S.L., & Strain, P.S. (1984). Peer-mediated approaches to promoting children's social interaction: A review. American Journal of Orthopsychiatry, 54, 544-557.

Parker, J.G., & Asher, S.R. (1987). Peer relations and later personal adjustment: Are low-accepted children at risk? Psychological Bulletin, 102, 357-389.

Parten, M.B. (1932). Social participation among preschool children. Journal of Abnormal and Social Psychology, 27, 243-269.

Peterson, C.A., & McConnell, S.R. (1993). Factors affecting the impact of social interaction skills interventions in early childhood special education. Topics in Early Childhood Special Education, 13, 38-56.

Peterson, N.L., & Haralick, J.G. (1977). Integration of developmentally disabled preschoolers: An analysis of play behavior and social interaction. Education and Training of the Mentally Retarded, 12, 235-245.

Pueschel, S.M., Bernier, J.C., & Weidenman, L.E. (1988). The special child: A sourcebook for parents of children with development disabilities. Baltimore: Paul H. Brookes Publishing Co.

Ramsey, P.G., & Lasquade, C. (1996). Preschool children's entry attempts. Journal of Applied Developmental Psychology, 17, 135-150.

Reynolds, M.C. (1989). An historical perspective: The delivery of special education to mildly disabled and at-risk students. Remedial and Special Education (RASE), 10, 7-11.

Rogers-Warren, A. (1980). Playing and learning together: Patterns of social interaction in developmentally disabled and nondisabled children. Kansas University, Lawrence. Early Childhood Institute. (ERIC Document Reproduction Service No. ED 231 104)

Schnacker, L. (1995). Social skills training for youth with behavior disorders. East Lansing, MI: National Center for Research on Teacher Learning. (ERIC Document Reproduction Service No. ED 385 027.)

Shanker, A. (1994). School reform: Full Inclusion is neither free nor appropriate. Educational Leadership, 52, 18-21.

Shuell, T.J. (1986). Cognitive conceptions of learning. Review of Educational Research, 56, 411-436.

Sosnowsky, W. P. (1990). Inclusive education: toward the maximum potential. LRE bows to the least restrictive alternative. A Bibliography and Directory. (ERIC Document Reproduction Service No. ED 319 172).

Spicuzza, R.J., McConnell, S.R., & Odom, S.L. (1991). Normative analysis of social interaction behavior for children with and without disabilities: Implications for intervention. Paper presented at the 14th Annual Conference of the Association for Behavior Analysis, Atlanta, GA.

Stinnett, T.A., Oehler-Stinnett, J., & Stout, L.J. (1989). Ability of the Social Skills Rating System-teacher version to discriminate behavior disordered, emotionally disturbed and nondisabled students. School Psychology Review, 18, 526-535.

Storey, K, Danko, C.D., Ashworth, R., & Strain, P.S., (1994). Generalization of social skills intervention for preschoolers with social delays. Education and Treatment of Children, 17, 29-51.

Strain, P.S. (1983). Identification of social skill curriculum targets for severely developmentally disabled children in mainstreamed preschools. Applied Research in Mental Retardation, 4, 369-382.

Thorndike, R.L., Hagen, E.P., & Sattler, J.M. (1986). Stanford-Binet Intelligence Scale, fourth edition. Chicago: The Riverside Publishing Company.

Vitiello, B., & Jensen, P.S. (1995). Disruptive behavior disorders. In H.I. Kaplan & B.J. Sadock (Eds.), Comprehensive textbook of psychiatry/VI (pp. 2311-2319). Baltimore, MD: Williams, & Wilkins.

Willis, T.J., LaVigna, G.W. & Donnellan, A. (1987). Behavior assessment guide. Los Angeles, CA: Institute for Applied Behavior Analysis.

Zimmerman, I. L., Steiner, V.G., & Pond, R.E. (1991). Preschool Language Scale-3. San Antonio: The Psychological Corporation.