Facilitating social development with play groups in early childhood settings

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FACILITATING SOCIAL DEVELOPMENT WITH PLAY
GROUPS IN EARLY CHILDHOOD SETTINGS

by

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A dissertation submitted in partial fulfillment of the requirements for

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ABSTRACT

Facilitating Social Development With Play Groups in Early Childhood Settings

by

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This study investigated the efficacy of using facilitated and nonfacilitated play groups as an intervention for facilitating the social interactive behaviors of young children with and without disabilities. Sixteen students aged four to five years from a community-based preschool on a university campus participated in the study. The facilitated play group was assigned a facilitator who was trained to encourage the social and play interactions among the children using the guided participation strategies adapted from the Integrated Play Groups Resource Manual (Wolfberg & Schuler, 1992). The nonfacilitated play group was assigned the same adult whose only role was to monitor the children. Each eight-child
play group met 20 minutes a day, four days a week, for four weeks (16 sessions). Data collected included the Social Skills Rating Skills System pretests and posttests. Video taped observations of the subjects' qualitative and quantitative social interactive behaviors were collected during weeks one and four. They were analyzed using the Social Interactive Observation Scale (SIOS) and the Observer Manual. Results indicated a statistically significant difference for two of the fifteen social interactive behaviors for subjects in the facilitated play group. The number of times the subjects with and without disabilities initiated interactions towards each other actually decreased from the initial to the final observation. A statistically significant relationship appeared between disability status and the score on the social skills posttest regardless of play group assignment. A statistically significant effect was found for decreased problem behaviors posttest scores regardless of play group assignment or disability status. All of the subjects' problem behaviors decreased as a result of their involvement in the study. Some of the children with disabilities had higher social scores on the pretest measures than their peers without disabilities. This needs to be considered when configuring play groups. Future
research is needed to determine what level of adult facilitation is appropriate for establishing a context in which young children can be supported to increase their social skills in a play group setting.
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CHAPTER 1

INTRODUCTION

History

Research results have shown that many young children with disabilities have deficits in socialization (Strain & Kohler, 1988; Guralnick, 1990a) and do not possess the prerequisite skills needed to play and socialize with their peers. They tend not to acquire the skills needed to initiate and sustain meaningful social interactions with other young children. Parents and others have expressed concern that the placement of children with disabilities in special schools or self-contained classrooms would limit their children's opportunities to form the relationships that would enable them to participate in their schools and communities (Greenspan & Shoultz, 1981).

Wolfberg and Schuler (1992) stated the need to play has received little attention in special education because it has been regarded as a trivial activity. They added that typically developing children spend a great deal of time engaged in independent and peer play activities and
therefore, "a greater concern for children who do not develop play in typical ways is warranted" (p. 13). Wolfberg (1999) described how "play is critical to the child's growing capacity to understand and relate to the social world, and ultimately to participate in peer culture" (p. 5).

Results of previous research indicate a need to study if, how and when adults can provide facilitation to help young children who do not display age-appropriate social competence to become more competent players. Adult facilitation is a process of guided participation of children to develop cognitively in the context of socially supported, culturally-valued activities. The facilitation is comparable to the play support provided in the context of Integrated Play Groups (Rogoff, 1990).

The use of play groups is becoming a popular intervention for promoting increases in the social skills of children in a variety of settings. The review of the literature in Chapter 2 shows a variety of groupings have been employed in specialized, mainstreamed, and laboratory settings. However, rarely have play groups been used with an existing group of children with and without disabilities in a naturalistic setting such as a community-based preschool. Before play groups become more widely used for
promoting the social interactive skills of young children with and without disabilities research is needed to determine the efficacy of this type of intervention.

Purpose of the Study

The purpose of this study is to investigate the efficacy of using facilitated and nonfacilitated play groups to increase social interaction behaviors between and among young children with and without disabilities.

Research Questions

1. Does adult facilitation change the social interactive behaviors demonstrated by children with and without disabilities who participate in the play groups?

2. Do the social behavioral ratings of children with and without disabilities in facilitated and nonfacilitated play groups change over time?

10. Do the problem behavior ratings of children with and without disabilities in facilitated and nonfacilitated play groups change over time?

Significance of the Study

Guralnick (1990c) suggested that what appears to be needed is a comprehensive intervention program focusing
specifically on young children’s peer-related social competence. He added that critical components of such an intervention program would include use of an assessment instrument, "capable of capturing the critical elements, major influencing factors, and essential processes of peer interactions" (p. 298). The information collected would be used to create a systematic individualized series of interventions. Guralnick (1990c) stated that knowledge about how children form friendships or process social information are features that must be included in any program. Also, attention should be directed to the environmental and family influences that may affect interactions with peers when developing an intervention program focusing on peer-related social competence of young children.

This study should help provide early childhood personnel with an intervention to promote the effective social interactive behaviors of young children in naturalistic settings. Play as a conduit for intervention has been shown to be instrumental in promoting the social development of young children, which includes how they learn to negotiate and compromise while playing with others (Rubin, 1980) and how they develop friendships within the context of their play experiences (Hartup & Sancilio,
The study should advance knowledge about the importance of play as a natural intervention for promoting the social development of young children. Finally, this study could show the benefit of including children with disabilities in naturalistic settings, such as community-based preschools, with typically developing peers.

Limitations of the Study

1. The subjects in this study were acquainted with one another through their attendance at the preschool, and they may already have established a social status hierarchy and social separation among themselves (Guralnick, Connor, Hammond, Gottman, & Kinnish, 1995).

2. The study was conducted in one naturalistic setting with a limited number of subjects, so generalization of the results to other settings and groups may be limited (Guralnick, 1990c; Guralnick & Groom, 1988b).

Definition of Terms

1. Early Childhood Programs - Are locations in which groups of children from the ages of 2 through 6 typically can be found such as community-based public, private, or employer preschools, or daycare centers, Head Start, home daycare, and recreation groups (Allen & Schwartz, 1996).
2. Naturalistic settings - Are defined as locations where "Services and supports are following children with disabilities into 'naturalistic environments,' that is, the settings where they would be if they did not have a disability" (Vincent, 1995, p. 285).

3. Inclusive Preschools - Are defined as "Settings which serve preschool-age children with and without disabilities in the same programs and classrooms" (Vincent, 1995, p. 286).

4. Facilitated Play Group - Is defined as a group of children participating in supervised play with an adult facilitator on a consistent basis for an extended period of time within the context of an inclusive naturalistic setting.

5. Nonfacilitated Play Group - Is defined as a group of children participating in an adult monitored play group, but without an adult facilitator, that meets on a consistent basis for an extended period of time within the context of an inclusive naturalistic setting.

6. Social Competence - Is defined as "An individual's ability to initiate and maintain satisfying, reciprocal relationships with peers" (Katz & McClellan, 1997, p. 1).

7. Positive Interaction - Is defined as "Normal conversation, including giving requests and polite
refusals, sharing materials, playing cooperatively, interacting in games, and displaying physical signs of affection such as hugging and holding hands" (Antia, Kreimeyer & Eldredge, 1990, p. 2).

8. Negative Interaction - Is defined as "Snatching materials or toys from a peer without asking and receiving permission, shouting, hitting, throwing, pulling or pushing away" (Antia, Kreimeyer & Eldredge, 1990, p. 2).

9. Children with disabilities - Are defined as subjects in the study who are eligible for special education and/or related services and have a current Individualized Education Program (IEP).

10. Children without disabilities - Are defined as subjects in the study who are not eligible for special education and/or related services and do not have a current Individualized Education Program (IEP).

11. Facilitator - Is defined as an adult facilitator who was trained to encourage social and play interactions among the children using the guided participation strategies adapted from the Integrated Play Groups Resource Manual (Wolfberg & Schuler, 1992) and reorganized for the purpose of this study.
CHAPTER 2

REVIEW OF THE LITERATURE

Many young children with disabilities in integrated environments are reported to do the same or better on developmental and academic measurements as in specialized environments such as self-contained classrooms (Fewell & Oelwein, 1990; Hunt, Staub, Alwell, & Goetz, 1994). Proponents of inclusion suggest children with disabilities who are integrated with typically developing peers are given opportunities for learning to occur through imitation, social interaction, and social play (Bailey & Wolery, 1992).

Guralnick's study (1990b) indicated that including children with disabilities in naturalistic settings, such as community-based preschools, with typically developing peers is not sufficient to increase social interactions. He pointed out that simple contact or physical proximity does not ensure children with and without disabilities will begin to play together and form friendships, nor is it sufficient to produce acceptable social skills. Children with higher play skills or who are competent players tend
to seek out others with similar interests and skill levels (Guralnick, Connor, Hammond, Gottman, and Kinnish, 1995). Children who exhibit low or limited play skills tend to be excluded from peer groups (Guralnick et al., 1995). Children with disabilities who are unaware of the behavior of others or who are not engaged with their peers in a meaningful manner may not learn simply from being exposed to typically developing peers.

During the last decade, authors such as Falvey (1989) have emphasized the need for children with disabilities to develop friendships with children without disabilities. She contends that further exploration is needed to determine what strategies or interventions can be used to promote the social interactive behaviors of young children in inclusive settings.

Friendships of Young Children

Vincent (1985) said that parents of children with disabilities often state that a primary goal for their children is to have friends in their community. Unfortunately, children who are perceived as different or challenging to approach are often excluded from peer groups (Wolfberg & Schuler, 1992). Further, Wolfberg and Schuler (1992), in their manual on integrated play groups, say children who fail to comprehend and react to social
advances made by their peers are at-risk for social exclusion.

A variety of instructional strategies such as coaching, modeling and shaping have been used to foster and support friendships between and among students with and without disabilities (Falvey & Rosenberg, 1995; Wolfberg & Schuler, 1992). Social skills associated with the ability to develop and sustain friendships also have been taught. Additionally, school and community activities have been used by educators to facilitate the development of friendships between and among students with and without disabilities.

Guralnick and Groom (1988a) studied the friendship patterns of 4-year-old boys with mild developmental delays in play groups with 3- and 4-year-old typically developing boys. The children were observed in free play and fourteen categories of social behavior were coded. If the target child directed at least one-third of all social interactions to a single child, a friendship was identified. If the friend reciprocated by directing at least one-third of all his social interactions toward the target child, a reciprocal friendship was specified.

Results indicated that typically developing children were more likely to select other typically developing
children as friends. The friendship criteria established for the study showed that only two of the 16 children with delays were identified as having reciprocal friendships. Even though it was observed that the children with disabilities were able to display several friendship behaviors, these behaviors did not lead to the development of reciprocal friendship relationships (Guralnick & Groom, 1988a).

Social skills deficits, such as the inability to engage in sustained interactions, may be one reason that young children with disabilities have problems establishing and maintaining friendships.

Buysse (1993) explored issues related to friendship among preschoolers with disabilities in inclusive preschool settings in the community. These settings included 27 community-based programs consisting of day care centers, private preschools, and Head Start programs. On average, 85% of the total class enrollment was made up of children without disabilities. Peer relationships were categorized as mutual friendships, unilateral relationships, or no friendships or relationships. The subjects were 58 preschoolers of different racial and diagnostic categories. The children were mostly male (66%) and their ages ranged from 2.2 to 5.5 years. The instrument used to collect data
was the Early Childhood Friendship Survey (ECFS) (Buysse, 1991) and was completed by parents or caregivers who included mothers, fathers and other relatives or foster parents. The 58 parents used a slightly different version of the ECFS than the teachers. For example, parents were asked to identify factors contributing to friendship formation using an open-ended format and to describe peer relationships that occurred outside the school. Teachers were asked to provide contributing factors to friendship formation using a close-ended format and describe peer relationships that occurred at school only. Parents also were asked to fill out a form on demographics. In addition to the friendship survey, the Battelle Developmental Inventory (BDI) (Newborg, Stock, Wnek, Guidubaldi, & Svinicki, 1988) was used to assess the subject’s overall developmental status. The Carolina Record of Individual Behavior (CRIB) (Simeonsson, Huntington, Short, & Ware, 1982) was used to assess specific behavioral characteristics, and teacher ratings were used to record other aspects of the child likely to interfere with friendship formation such as use of special devices, and unusual behavior or appearance. The interrater agreement on the CRIB and BDI was a mean of 75% with a range of 60% to 93% (Buysse, 1993).
Quantitative analyses of the parent and teacher friendship surveys, family demographics, and child-specific assessments were used to determine incidence of friendships, relationships between friendship and child-related factors and factors that facilitate friendship formation. According to a total of 58 parents who served as respondents (one for each subject), 46 (79%) of the subjects had mutual friends, three (5%) had unilateral relationships (where the subject initiates interactions with a peer who does not reciprocate). One (2%) had a unilateral relationship (where the subject is the recipient of a peer's interactions but does not reciprocate), two (3%) had both types of unilateral relationships, and six (10%) had no friendships or unilateral relationships. The teachers' reports of the same 58 subjects indicated that 32 (55%) of the subjects had mutual relationships, four (7%) had unilateral relationships where the subject initiates interactions with a peer who does not reciprocate, six (10%) had unilateral relationships where the subject is the recipient of a peer's interactions but does not reciprocate, one (2%) had both unilateral relationships, and 15 (26%) had no friendships or unilateral relationships. A subsequent analysis showed that the main disagreement between parent and teacher reports occurred
where the parents reported a mutual friendship and the teacher reported no friendships (Buysse, 1993).

Teachers and parents reported that children with disabilities often have mutual friendships (each partner selects and is selected by another partner) as well as unilateral friendships (only one partner selects a child as a special friend). Based on the teacher-identified friendships, children identified as speech/language impaired had more mutual friends than those children identified as mentally handicapped. Subjects with more severe developmental delays appeared to engage in fewer mutual friendships (Buysse, 1993).

A statistically significant difference was found between the mean developmental ages of children with mutual friendships and those with unilateral relationships for, "both parent-identified friendships, $F(2,54) = 3.92, p = .026$, and teacher-identified friendships, $F(2,54) = 5.64, p = .006$" (Buysse, 1993, p. 387). Subjects who had mutual friendships tended to have higher BDI age-equivalent scores than subjects who did not. Subjects with unilateral relationships were found to have the lowest BDI scores (Buysse, 1993).

On the CRIB, for teacher-identified friendships, a significant difference occurred between friendship groups.
based on responsivity. Subjects with mutual friendships had higher scores on items assessing activity level, reactivity, goal-directedness, frustration, attention span, and responsiveness to adults. Subjects with unilateral relationships had lower scores on these items (Buysse, 1993).

Of the 58 parent respondents, 19 (32%) parents mentioned the friend's characteristics and 16 (27%) parents identified the opportunity to spend time together as important factors contributing to friendship formation. Twelve (20%) parents also reported that friendships were promoted by mutual affection between the subject and friend, by shared interests in toys or activities, or by similarities in children's background characteristics. Eight (13%) parents reported that the subject's characteristics influenced friendship formation.

Teachers responded to a close-ended question format of the ECFS and tended to identify multiple factors to explain how friendships were formed between one child and another. The most frequently identified factor named by 49 (84%) teachers as contributing to friendship formation was the friend's characteristics. The next most commonly identified factor named by 45 (78%) teachers was the subject's characteristics. Forty (69%) teachers identified
the classroom activities, 37 (63%) teachers mentioned the classroom materials, and 26 (44%) teachers identified adult involvement as factors contributing to friendship formation (Buysse, 1993).

Buysse (1993) discussed the various limitations of the study. For example, the findings were based on teacher and parent reports rather than on direct observation of the subjects. The subjects were not randomly assigned or selected for participation in the study. The subjects were already participating in community-based child care settings and the extent to which program-related factors such as staff-to-child ratios and variable age groups may have influenced friendship formation was not investigated.

Despite limitations, the study offered some interesting findings from the in depth information provided by familiar adults about friendships. This study used information from teachers and parents who were familiar with how the subject interacted with friends throughout the day. Other studies have used teacher ratings and observation of social relationships of children in school or on the playground, but the data derived from parents in this study are especially meaningful because they have more consistent contact with the subjects and are knowledgeable of their social skills and daily social interactions. This
study also had the advantage of a large and diverse sample of young children with disabilities in a variety of inclusive settings.

The subjects in this study were viewed to have mutual friendships more often by their parents than by their teacher. This may be due to the fact that parents had more contact with their child throughout the day and gave a more accurate report on the social contact of the child; or perhaps the parents were better at setting up the situation so a friendship could occur.

In another study by Hall (1994), information on the social relationships of four subjects with disabilities in four different integrated classrooms was collected over three years. Two of the classes were in Belgium and two were in Australia. The classes were found by contacting school administrators who had active integration policies. Each of the four subjects was identified as the only student who had a disability in his or her class. Subject one was a three and one-half year old girl with Down syndrome in a mixed age group of 23 students ages three and one-half to six years. Subject two was a seven year old boy with Down syndrome in a first grade class of 25 students ages five and one-half to seven years. Subject three was a six-year old boy with multiple disabilities
involving neuromotor difficulties and cognitive delays in a class of 20 children, ages five to six-years-old. Subject four was a boy, age six years, five months with cerebral palsy in a class of 20 five to six-year-old children. (Hall, 1994).

Data on observed proximity, sociometric ratings, student and teacher interviews were collected to describe the social relationships of the four subjects and their classmates in each of the classes. Each subject was in his or her class for at least three months before any data were collected. Nine 10-minute observations were made of each subject during free play activities. The sessions were divided into one-minute intervals and partial-interval time sampling was used to record the subject and the first one to three classmates in proximity to the subject during each minute. Criteria for inclusion on the recording sheet was that the classmate must have been located within a two foot square zone surrounding the subject and remain within this proximity for a minimum of five seconds (Hall, 1994). Mean interrater agreement for the identity of children in proximity to the subject varied from 71%-80%. After nine observation sessions, the number of intervals that each child spent in proximity to the subject was counted. Classmates who appeared for at least 10% of the
observations were identified as those spending time in proximity to the subject. Sociometric nominations also were made by the classmates and the subjects during the observation period. Children were asked to select three photographs of classmates with whom they would like to paint a picture. Then they were asked to select three children with whom they would like to play a game. Finally, they were asked to select three children with whom they would like to sit and listen to a story. After nine positive peer nominations were collected, the children were asked to make nine nominations with whom they would not want to play, paint, or listen to a story. Next, social preference scores were obtained for each child by subtracting the total number of negative nominations received from the total number of positive nominations received. Then children were grouped according to their score as having high or low social status. Finally, interviews were conducted with each of the classmates who had been identified as spending the most time in proximity to each of the subjects. In addition, each identified classmate was interviewed about another child who had received a positive nomination from the classmate on the sociometric measure. Teachers of the subjects were shown a list of children who had been identified as spending the
most time in proximity, and asked why they thought each child on the list often was in proximity to the subject. Also, the teachers were asked if classmates who spent time with the subject were not on the list (Hall, 1994).

Equal numbers of boys and girls were reported as spending the most time in close proximity to each of the four subjects. Subject two, the seven year old boy with Down syndrome, was identified as the subject who spent the most amount of time (28%) with a peer without disabilities. The sociometric nominations showed the number of positive and negative peer nominations received by each subject in the four integrated classes and a variation in their distribution among classes. The status of the subjects ranged from subject two, the seven year old boy with Down syndrome being identified among the low status children to subject four, a six and one-half year old boy with cerebral palsy, being identified as holding the highest status in his class (Hall, 1994).

The interviews with the children identified in close proximity to the subjects and about the second classmate to whom they gave a positive peer nomination supports observations that young children can provide information about their relationships by answering a simple question. Teachers' responses were consistent with the children's
responses when activities were given as the reason for spending time together (Hall, 1994).

The sociometric nomination measure provided information about the popularity of the subjects. The subjects were found to vary from high to low social status. Results did indicate reciprocal, positive nominations between the subjects and their classmates in all four classrooms. Hall (1994) concluded that associations between children with disabilities and their classmates may occur in integrated classrooms without any formal interventions.

Various researchers have explored the formation of friendships in integrated settings between children with and without disabilities, (Buysse, 1993; Hall, 1994; Guralnick & Groom, 1988a). Buysse (1993) identified several factors that support friendship development. Both teachers and parents agreed that the main contributing factor was the friend's characteristics. Guralnick & Groom (1988a) and Buysse (1993) specifically addressed the types of friendships between children with and without disabilities. Results revealed that typically developing peers are more likely to engage in mutual or reciprocal relationships than children with disabilities who tend to engage in unilateral friendships.
Social Interaction Patterns of Young Children

One of the goals of early intervention is for children to acquire the skill of being able to interact appropriately with others. However, research has documented that young children with disabilities interact less often than their typically developing peers and engage in lower levels of social play than do children of similar chronological age (Bailey & Wolery, 1992).

Several studies have focused on the social interaction patterns of young children with and without disabilities. During the 1980s, Guralnick and other researchers completed a series of studies addressing the friendships and social interactions of young children with disabilities.

Guralnick (1980) investigated the frequency of social interactions of children grouped by level of disability in an integrated preschool to examine the nature and extent of social interactions among preschool children at different developmental levels. Twenty-five subjects with disabilities (nine with mild disabilities, five with moderate disabilities, and 11 with severe disabilities) and 12 subjects without disabilities were divided into four groups. Categorization of the subjects was done according to the American Association of Mental Deficiency’s
classification manual and standardized testing of language skills (Guralnick, 1980).

Observers recorded the frequency and quality of social interactions initiated among children with and without disabilities during integrated free play in the classroom setting. Each subject was observed for eight 4-minute segments for a total of 32 minutes over a nine-month period from September to June. Data were taken on the individual receiving the interaction. Teaching staff were told to encourage interaction among children of different developmental levels (Guralnick, 1980). Communication between the subjects with mild delays and the subjects without disabilities was found to be considerably greater than communication with the children identified as having moderate and severe delays. Subjects with moderate and severe disabilities communicated equally with all four groups. Negative interactions occurred with a low frequency for all groups. This pattern held for both initiating and receiving social interactions. Between the first observations (September to November) and the second set of observations (April to June), patterns of interactions typically were increased. The results indicated that social interaction and integration occurred
between the subjects without disabilities and the subjects with mild disabilities (Guralnick, 1980).

A strength of the study was it occurred in an integrated preschool over an entire school year, which allowed the natural social interactions that developed during the year to be observed and measured.

Guralnick and Groom (1985) examined the peer-related social interaction of 33 preschool children with developmental delays. Measures of social participation and individual social behaviors were obtained during free play periods and correlated with assessments of language development, mental age (MA), and teacher-ratings of social competence and behavior problems.

Subjects were children enrolled in a preschool program for children with cognitive delays and functioning in the mild to moderate levels of mental retardation. The 33 subjects participated in one of 12 self-contained classrooms for 2.5 hours per day, five days per week. The classes were small (mean = 7.9 children) with one teacher and an assistant. Subjects were involved in individual and group activities and a portion of each day was set aside for free play. Observations of social and play interactions were obtained during the free play period. Two observers utilized two separate observation scales to
code the social participation, cognitive play, and the individual social behaviors of each subject. Each child was observed for four 10-minute periods on each of the two scales for a total of 80 minutes over a period of 13 weeks during the middle third of the school year (Guralnick & Groom, 1985).

At the end of the study, teachers were asked to complete three rating scales for each child related to social competence and behavior problems. The Kohn Social Competence Scale (Kohn & Rosman, 1972; Kohn, Parnes, & Rosman, 1979) consists of 64 statements characterizing specific behaviors on a 5-point scale. The ratings produce two factor scores. The first factor reflects a child's interest and ability in establishing peer relationships and in participating in classroom activities. The second factor relates more to the children's willingness to conform to classroom rules and routines (Guralnick & Groom, 1985). Two instruments were used to assess teacher-rated behavior problems for each child. The Kohn Problem Checklist (Kohn & Rosman, 1972) was used to rate how typical each of the 49 behavior problems were of each child on a 3-point scale. The second instrument used was the Preschool Questionnaire (Behar & Stringfield, 1974) which consists of a 30-item checklist requiring the teacher to
judge each behavior problem statement on a 3-point scale. High reliability was established prior to beginning the study by training two raters on each of the observation scales (Guralnick & Groom, 1985).

The subjects were observed to participate in all categories of the social participation and cognitive play measures. Closer examination showed that the average proportion of time the subjects engaged in social play was only 11.7% (Guralnick & Groom, 1985). The subjects spent most of their time either playing alone (39.24%) or not playing at all (36.92%) (Guralnick & Groom, 1985). In addition, the data showed approximately 25% of the subjects were responsible for over 50% of the social interaction.

Cognitive play measures showed that constructive play dominated each of the categories. The subjects initiated social interactions toward others as frequently as their peers initiated social events toward them. Individual social interaction results showed that the subjects used all the social interaction categories, but the dominant forms of social exchanges consisted of efforts to gain the attention of peers, compete for equipment, and follow the activity of others without specific direction to do so.

A correlation matrix for the variables in the study was developed to examine the relationships among cognitive
and language status, teacher ratings of social competence and behavior problems, and the peer-interaction measured variables of playing alone, not playing, and social play. Results showed the existence of major deficits in peer-related social interactions for the subjects. The absence of specific individual social behaviors highly associated with peer-related social competence (Guralnick & Groom, 1985). Mental Age (MA) was positively correlated with social play, $r = .44, p < .01$ but not related to not playing at all. MA and language age were strongly correlated, $r = .84, p < .001$, but language age was not correlated with any of the three social play variables. Teacher-rated behavior problems were associated with not playing, even when MA was controlled (Guralnick & Groom, 1985).

The subjects engaged in group play less than half of the time that would be expected for typically developing peers at similar developmental levels. Subjects participated in solitary play 65% of the time, parallel play 22% of the time, and in group play only 13% of the occasions. Only a few of the subjects participated in any substantial amount of group play at all (Guralnick & Groom, 1985).
Behavior difficulties, which were identified by the teacher ratings, may have interfered with the formation of peer relationships. Not playing at all was highly correlated with hostility and aggression on one scale and anger and defiance on another scale. These relationships remained evident even after controlling for MA (Guralnick & Groom, 1985).

Guralnick and Groom (1985) discussed that the results of this study replicate and expand earlier work and provide more evidence that the deficits in social participation and peer-related social exchanges of children with developmental delays extend well beyond those that would be expected on the basis of the children's cognitive levels (p. 147).

Guralnick and Groom (1985) noted several limitations of the study. Even though all the subjects were identified as having cognitive delays and were characterized as being representative of children found in specialized community-based early intervention programs, the authors described them as a very heterogeneous group. Therefore, no clear relationships with other variables related to health concerns, etiology or other factors were discovered. A second limitation was that the study did not have a matched group of typically developing subjects that could be used
for comparison. The subjects in the study were observed interacting only with other children with developmental delays, which may have prevented the demonstration of more advanced peer-related social skills.

Guralnick and Groom (1987) studied 64 boys with and without delays who were brought together to form eight play groups. Each group consisted of three 3-year-old boys without delays, three 4-year-old boys without delays, and two 4-year-old boys with mild delays. The subjects with delays were matched by chronological age to the 4-year-old boys without delays and by developmental level to the 3-year-old boys without delays. Each play group operated two hours per day, five days per week for a total of four weeks and 20 sessions. Throughout the play group sessions, each subject's peer-related play and social interactions were video taped and analyzed for social participation and individual social behaviors. At the end of the four weeks, play group session peer sociometric ratings following Asher, Singleton, Tinsley, and Hymel (1979) were completed with each subject.

Results indicated that the 4-year-old boys without delays demonstrated more socially competent interactions with their peers than the 3-year-old boys without delays or the 4-year-old boys with mild delays. The 4-year-old boys
without delays engaged in more group play and had a higher frequency of individual social behaviors than the 3-year-old boys without delays or the 4-year-old boys with delays. The 4-year-old boys with mild delays were the least social interactive group and engaged in more solitary play than either of the two groups without delays. They also showed a decline in their ability to obtain positive outcomes to their social interactions over time, and appeared to be less interested in their peers than the 3-year-old boys without delays. Observational analyses of social interaction patterns and peer sociometric ratings also suggested that subjects with mild delays were perceived as less competent and of lower social status by other children in the setting. The authors suggested that the difference between the younger groups was the existence of a peer-related social deficit for the preschool children with mild delays even when responsive peers were available.

Guralnick and Groom (1988b) compared peer-related social interaction of sixteen 4-year-olds with mild developmental delays in a mainstreamed program with children without delays to their interaction occurring in specialized settings containing only other children with delays. Of the 16 subjects who participated in this study, five subjects were lost to attrition before observation in
their specialized setting could be obtained, leaving only 11 subjects available for observation in the specialized setting. All participants in the play groups were boys who were unacquainted previously and had no siblings with disabilities or previous experience in an integrated setting. The group of 11 subjects had mild delays with varied etiologies including chromosomal disorders, perinatal disorders, postnatal traumas, and unknown causes. Their mean chronological age (CA) was 53.64 months, mean mental age (MA) was 44.36 months, and mean IQ was 71.36. Guralnick and Groom (1988b) described them as having no major sensory, motor, or behavioral impairments. For the 24 same-age children without delays (three participating in each of the eight play groups) mean CA was 53.75 months, mean MA was 65.50 months, and the mean IQ was 110.83. For the 24 younger children without delays (three participating in each of the eight play groups) mean CA was 36.54 months, mean MA was 44.83 months, and mean IQ was 106.50 (Guralnick & Groom, 1988b). No statistically significant difference in socioeconomic status among the three groups of children was found. A statistically significant difference for language age existed among the three groups, with the 4-year-olds without delays scoring the highest, followed by
the 3-year-olds without delays, and the 4-year-olds with delays. (Guralnick & Groom, 1988b).

Eight play groups were formed and each was comprised of three 3-year-olds without delays, three 4-year-olds without delays and two 4-year-olds with mild developmental delays. The play groups took place in a university-based laboratory preschool classroom under the supervision of a teacher and graduate assistant. The play groups lasted two hours per day, five days a week for 20 sessions. Over the four week period, each child in the group was observed for a total of 100 minutes in ten 10-minute sessions. These observations were video recorded through a one-way mirror in another room.

The specialized settings were nonexperimental in that they were self-contained settings that only included children with developmental delays and the subjects regularly attended these programs for two hours and thirty minutes a day for four to five days a week. Classes had an average size of 9.7 children and were staffed by one teacher and one assistant. Subjects were observed during a daily free play time lasting 30-40 minutes. During this time, children with delays had comparable toys and equipment to the mainstreamed play groups. The adults in
both space settings were asked to provide assistance only when necessary during free play (Guralnick & Groom, 1988b).

Two scales were used for video taped and live observations. The first scale used was a social participation and cognitive play scale. Play behavior was coded at 10-second intervals according to the quality of social participation and the levels of cognitive play using a time code superimposed on each video tape. Four 10-minute segments for a total of 40 minutes per subject were analyzed. For the live observations, a sequence of "10-second observe" and "5-second record" intervals was used for four 15-minute observation periods for a total of 40 minutes per subject (Guralnick & Groom, 1988b).

The second observational measure consisted of an individual social behavior scale. Raters continuously coded the occurrence of any of the fourteen behavioral categories demonstrated by the subject being observed when each video tape was reviewed a second time. For the live recordings, raters coded the occurrence of the fourteen peer-related social behaviors for a continuous 10-minute period on four occasions for each subject (Guralnick & Groom, 1988b). Reliability was established by training the raters before the observations for the study took place. A minimum average criterion of 80% interobserver agreement
for each of the categories for five consecutive 10-minute
segments on the two observation scales was obtained
(Guralnick & Groom, 1988b).

The measures reflecting peer-related social
interactions of the subjects were compared across the
mainstreamed and specialized settings. A multivariate
analysis of variance (MANOVA) was conducted on the
frequency of the intervals coded for the 11 categories of
the social participation scale and showed a significant
multivariate effect. Separate univariate analyses found
two of the categories were significant including
transitional, and adult-directed in which higher
frequencies were observed in the self-contained setting.
Separate analyses of variances (ANOVAs) were carried out on
the percentages of the three categories of play. Dramatic
play (role taking and pretend play) was found to occur
rarely and to the same extent approximately in both
settings. Constructive play (creating something) was found
to be higher when subjects were in the mainstreamed
settings and functional play (simple repetitive play) was
greater in the specialized setting than in the mainstreamed
play groups (Guralnick & Groom, 1988b).

The measure of individual social behaviors was
reorganized into positive and negative interaction
categories. An ANOVA was used to determine if positive interactions differed according to setting. Results indicated that the subject’s rates of social interactions in the mainstreamed settings were more than double those observed in the self-contained settings. To determine which social behaviors were affected by the setting, a MANOVA was run on the frequency of the occurrence for the categories of the individual social behavior scale and a significant effect was obtained. Separate univariate analyses revealed significant effects for six of the categories including attention, lead (positive), follows lead, follows activity, refuses to follow, and pride in product. Each of the categories occurred at a higher frequency in the mainstreamed setting than in the specialized setting (Guralnick & Groom, 1988b).

The authors suggested that the reason for the increased level of peer-related social interactions of the subjects with mild developmental delays in the mainstreamed setting was most likely due to the increased level of social interactions established by the typically developing peers. In the specialized settings, the lack of peer-related social interactions among the children may have been responsible for the increase in adult-directed interactions. The subjects with mild delays played more
constructively in the mainstreamed setting than the specialized setting. Simply being given the opportunity to observe and play with children engaged in more advanced play than what was occurring in the specialized setting may be a plausible explanation (Guralnick & Groom, 1988b).

A limitation of this study was the difference in how observations were conducted between the mainstreamed and specialized settings. The subjects' participation in the mainstreamed play groups was only video recorded and the observers were never present. The observations of each subject's social and play interactions in the specialized classroom settings were not video recorded but the observers were present. Both kinds of observations provide certain advantages. Video recordings are advantageous in that they can be reviewed several times. However, live observations also are advantageous because the observer has an opportunity to understand the full essence of what is occurring at a given moment in time.

Another limitation of the study was the time delay that occurred between observation of the two settings. Subjects were first observed in the mainstreamed play group setting. After those observations were completed, observation of the specialized classroom settings began within three weeks. Although, the difference in time may
have had little affect, the absence of typically developing peers following the end of the play group may have had some affect that reduced the interactions occurring in the specialized setting.

Another limitation of the study is that the classroom settings for both the mainstreamed and specialized play groups varied. Even though they were described as being similar in terms of teacher-child ratio, and in the type of toys and materials provided, even subtle differences in teaching styles, class size, and environments may have contributed to the outcomes of this study. Another limitation is that subjects were only observed during free play activities in both settings. The social and play interactions that were observed during free play activities may not be reflective of the types of peer interactions that subjects engage in during other activities.

An important implication of this study is that mainstreamed settings appear to promote an increased frequency in a variety of the individual social behaviors observed. However, the extent to which the subjects with mild developmental delays engaged in group play did not differ significantly between the mainstreamed and specialized settings. These findings suggest that further
research needs to address specific interventions that could serve to increase young children's skills in group play.

Guralnick, Connor, Hammond, Gottman, and Kinnish (1995) completed a study on the immediate affects of mainstreamed settings on the social interactions and social integration of preschool children. The subjects were 72 Caucasian boys between the ages of four and five years who were unacquainted previously. They were selected using matching methodology that ensured equivalence of child and family characteristics across all groups. For selection and matching purposes, a battery of assessments was administered to all possible subjects. Cognitive, language, adaptive behavior, behavior problems, and demographic instruments were completed for each subject. Subjects were placed in the category of typically developing or developmentally delayed based on a preselected set of criteria (Guralnick et al., 1995).

The subjects were divided into 12 play groups with six children in each group. Three play groups consisted of only typically developing children, three play groups were composed of only children with developmental delays and the other six play groups consisted of four typically developing children and two children with developmental delays. Each play group operated 2.5 hours per day, five
days per week, for two weeks (10 sessions). Play groups took place in a laboratory playroom and were supervised by a teacher and an assistant. For each play group, the social and play interactions of each subject were video recorded during a free play session using split screen technology. Each subject was observed for six 10-minute intervals over the two-week period. Each video recording was analyzed using observational measures to rate the subject's level of social participation and cognitive play and to examine specific peer-related social behaviors. Reliability was established by training the raters prior to the study on the two observation scales. Peer sociometric ratings were completed by each of the subjects in the playgroup using photographs of the five other subjects in the group (Guralnick et al., 1995).

Results indicated that for the type of setting (mainstreamed, specialized) factor, parallel play occurred more frequently in the mainstreamed setting, $F(1, 68) = 8.70, p < .01$ and subjects were unoccupied or not playing nearly twice as much in the specialized setting, $F(1, 68) = 5.26, p < .05$ (Guralnick et al., 1995). For the group factor, typically developing subjects engaged in more group play, parallel play, and active conversation with peers. The subjects with developmental delays engaged in more
solitary play, transitions, and interactions involving adults (Guralnick et al., 1995). Cognitive play showed that typically developing subjects engaged in more dramatic and less functional or simple repetitive play. Analyses of the subjects' individual social behaviors indicated that typically developing subjects were far more interactive than the subjects with developmental delays were. Subjects with developmental delays also displayed a higher proportion of negative social behaviors than the typically developing subjects did. A higher number of negative social behaviors occurred in the mainstreamed than in the specialized setting. Peer sociometric ratings showed that typically developing subjects received higher overall and more positive ratings in the mainstreamed than in the specialized setting and subjects with developmental delays received similar ratings in both settings (Guralnick et al., 1995).

A strength of the study was use of an extensive matching and selection methodology to determine the groups (typically developing or developmentally delayed), and assignment of the subjects prior to being selected for one of the play groups (specialized or mainstreamed). A weakness of the study was that only Caucasian boys were used, and without replication on more diverse samples, it
may be very difficult to generalize the results to other groups. Another weakness of the study was that subjects were only observed during free play sessions. The study findings could have been strengthened with observation results from a variety of settings. Another limitation was that the study took place during a two-week period. This study could be replicated with diverse subjects and lengthened to determine the long-term effects of mainstreamed settings for children with and without developmental delays.

The results of this study showed that young children with and without developmental delays were more socially interactive in a mainstreamed setting than in a specialized setting (Guralnick et al., 1995). This study also supports previous findings of Guralnick & Groom (1988b) that mainstreamed settings were more supportive of the peer interactions of children with developmental delays than specialized settings.

In another study of social interaction, Hanline (1993) examined the nature of spontaneous peer interactions that occurred in an inclusive preschool. The subjects were three children with profound disabilities and three children without disabilities between the ages of three and
five years. They participated in an eight-week summer program at a preschool located on a university campus.

The teachers at the preschool attended a two-hour inservice workshop and received weekly consultations from the researcher. Teachers were asked to limit their interactions with the subjects when data were being collected, and they were not expected to implement any specific interventions for promoting social interactions between the subjects with and without disabilities (Hanline, 1993).

Each subject was observed for a total of eight hours during indoor and outdoor play for the last four weeks of the summer program. The observers coded positive and negative social behaviors that served to initiate an interaction, terminate an interaction, or respond to the behavior of another child within an ongoing interaction.

Results showed that the subjects with disabilities interacted with their peers for 6.3 (79%) hours of the eight hours they were observed. The typically developing peers initiated and had more interactions than the subjects with disabilities. When typically developing peers initiated an interaction, it was responded to positively for 4.6 (58%) hours of the eight hours under observation. However, when the subjects with disabilities initiated an
interaction, they received a positive response 2.8 (35%) hours of the eight hours of observations. For 7.2 (90%) hours of eight hours of observation, typically developing peers continued their interactions with subjects with disabilities even after they received no response from them. However, when they initiated an interaction with other typically developing peers and received no response, they pursued the interaction only 2.4 (30%) hours of the eight hours under observation (Hanline, 1993).

A strength of the study was the extensive amounts of time subjects were observed in comparison to the length of time allocated to observations in the other studies reviewed. Also, the subjects were observed across two settings and, in many of the other studies, they were observed only during free play sessions. Another strength of the study was that the subjects with disabilities participated in an inclusive preschool with other typically developing peers.

Jenkins, Speltz, and Odom (1985) examined the effects of integrated and self-contained special education programs on the social interaction of two comparable groups of children with disabilities. The 46 subjects included 39 children with a range of disabilities and seven typically developing peers. The subjects were screened at the
beginning of the school year, ranked, and placed into one of the four classes located on a university campus. Two of the classes were part of the Communication Program designed to serve preschool children with mainly communication disorders. Twenty-two subjects were assigned to either the experimental group (N = 11, n = 3 subjects who were typically developing, n = 8 subjects with disabilities) or control group (N = 11 subjects with disabilities) within the Communication Program. The other two classes were part of the Early Developmental Program created to serve children with a variety of developmental delays. Twenty-four subjects were assigned to either the experimental group (N = 12, n = 4 subjects who were typically developing, n = 8 subjects with disabilities) or control group (N = 12 subjects with disabilities) within the Early Developmental Program. The control groups were designated as the 'segregated' classrooms because only subjects with disabilities were assigned to them. The experimental groups were designated the 'integrated' classes because subjects with disabilities and subjects who were typically developing were assigned to them. Subjects were assigned to the experimental and control groups within program type (Communications Program and Early Developmental Program) on a matching basis (Jenkins, Speltz, & Odom, 1985).
A pretest/posttest design was used in this study to measure the social interactions of the experimental and control groups. The Washington Social Code (WSC) discussed by Bijou, Peterson, Harris, Allen & Johnson, 1969, was used as the measure of interaction obtained at the beginning of the study and at the end of the school year. The interactions of each subject with a disability and an unfamiliar typically developing peer were video taped during a 10-minute observation after they were introduced and left alone in a playroom. Analyses of the video tape were completed using the Washington Social Code (WSC) instrument, which measures different types of interactions and play. Each subject with a disability also was observed in the classroom setting during free play for six 15-minute sessions (90-minutes) throughout the school year and social interactions were rated using the WSC. The classroom teachers were encouraged not to use the typically developing peers as peer models for the other children in their classrooms (Jenkins, Speltz, & Odom, 1985).

Analyses were performed on posttest measures of six dependent variables. Results showed the main effect of integration was statistically significant for two variables. Subjects in the integrated classes scored statistically significantly lower on the Peabody Gross
Measure Scale (PGMS) than subjects in the segregated classes, $F(1,20) = 7.9, p < .05$. On another dependent variable, the High Social measure category on the Washington Social Code (WSC) was used to assess the social interaction within a 'peer entry' situation of a child when introduced to an unacquainted typical peer in a playroom. Results showed subjects with disabilities in the integrated settings scored statistically significantly higher on the 'peer entry' behavior than subjects with disabilities in the segregated settings, $F(1,28) = 4.1, p < .05$ (Jenkins, Speltz, & Odom, 1985). The effect of program type was statistically significant for one variable, the Uniform Performance Assessment System (UPAS), with subjects in the Communication Program scoring higher than the subjects in the Early Developmental Program, $F(2,25) = 5.4, p < .05$ (Jenkins, Speltz, & Odom, 1985).

Coding from the free play observations using the WSC-High Social codings indicated that no statistically significant difference was found between the subjects in the Communication and Early Developmental programs, $F(1,34) = 1.5, p > .05$ (Jenkins, Speltz, & Odom, 1985).

For the subjects with disabilities in the two integrated classes, the mean percentage of verbalization was 57.8% (SD = 27.5) to a peer with a disability and 23.5% (SD = 22.2)
to a typically developing peer (Jenkins, Speltz & Odom, 1985).

A strength of this study was that an experimental and a control group were used and an equal number of children were assigned to each group through a screening, ranking, and matching process. Using a formal set of assessments rather than a screening procedure to rank and place the subjects into the preschool classrooms could have strengthened the study.

Many of the studies reviewed on social interactions of young children support the benefits of educating young children with disabilities with their typically developing peers in integrated settings (Guralnick, 1980; Guralnick & Groom, 1987; Guralnick & Groom, 1988b; Guralnick et al., 1995; Hanline, 1993; Jenkins, Speltz, & Odom, 1985).

All the studies by Guralnick and his colleagues (1980; 1985; 1987; 1988b; 1995) suggested the need for further examination of developing strategies and interventions that promote the acquisition and use of positive interactions and other social skills of young children to enhance their peer-related social competence.
Social Competence of Young Children

Social competence focuses on an individual's ability to initiate and maintain satisfying, reciprocal relationships with peers (Katz & McClellan, 1997). The following studies examined the social behaviors exhibited by children with and without disabilities in their interactions with others.

In one study, Cavallaro and Porter (1980) studied peer preferences of at-risk and typically developing children in a mainstream classroom. The subjects in the study were seven children with developmental delays and 13 typically developing peers between the ages of 54 to 89 months. The setting was a preschool classroom and an outdoor play area. Teachers were asked to limit their interactions with the subjects by only responding to social contacts initiated by the subjects. The subjects were observed for 30 minutes in the classroom during activity centers and for 30 minutes during outdoor play. Each subject was observed during 10-minute sessions with data being collected in 10-second intervals. Data were collected using behavioral measures that rated each subject's behavior associated with a peer such as object manipulation, parallel play, eye gaze, seating selection, and game partner choices (Cavallaro & Porter, 1980).
Results indicated that typically developing subjects directed eye gaze and participated in parallel play more with other typically developing subjects than subjects with developmental delays do. Subjects with developmental delays interacted more with other subjects with developmental delays in parallel play than with typically developing subjects. No difference in object manipulation was observed. Typically developing subjects were more consistent in their choice of peers during seating selection and chose other typically developing subjects more often as game partners than they chose subjects with developmental delays. Subjects with developmental delays chose other subjects with developmental delays as game partners more often than they chose typically developing peers (Cavallaro & Porter, 1980). Typically developing subjects appeared to demonstrate more advanced social skills and were more discriminating in their selection of peers than the subjects with developmental delays.

Field, Roseman, DeStefano, and Koewler (1982) examined the social play behaviors of children with disabilities and typically developing peers in an integrated preschool setting. The subjects were 36 children with disabilities and 12 children who were typically developing. The subjects met five hours per day, five days a week in one of
the four preschool classes involved in the study. The subjects were observed in 5-minute intervals for a total of 80 minutes over a four-month period. A time sampling technique was used to record social behaviors observed such as looking, smiling, vocalizing, moving toward, being close to, touching, offering toy, sharing toy, hitting, and crying. The behaviors were recorded as being teacher, toy, peer directed or self directed (Field et al., 1982).

Results indicated that subjects with moderate and severe delays engaged in more self directed behavior than typically developing subjects and subjects with mild delays. Typically developing subjects interacted more with the teacher than all the subjects with delays. Typically developing subjects and the subjects with mild delays displayed more toy directed behavior than the other two groups. The typically developing subjects demonstrated more peer directed social behavior than subjects with mild delays did. The subjects with mild delays showed more peer directed social behavior than the other two groups (Field et al., 1982). A strength of this study is that the results support the observation that children with and without disabilities follow a developmental sequence in their acquisition of social skills.
In a follow-up study by Field et al., (1982) the social interaction patterns of twelve subjects with mild delays and twelve typically developing subjects were observed on an integrated and nonintegrated playground setting adjacent to the preschool class. The 24 subjects' social behaviors were observed using a time sampling technique for a total of 90 minutes two times a week over an entire semester. The observations were broken into three 30-minute segments in which only subjects with mild delays were observed playing; then typically developing subjects were observed playing by themselves and finally, the two groups of subjects were observed playing together on the playground (Field et al., 1982).

Results indicated that typically developing subjects spent more time than subjects with delays in peer directed social interactions in the integrated and nonintegrated playground settings. Subjects with mild developmental delays demonstrated less peer directed interaction and more time vocalizing to toys when they were on the playground by themselves.

When all the subjects were observed on the integrated playground, results indicated that typically developing subjects had more social interaction with other typically developing subjects, where as, the subjects with mild
delays had the same amount of social interaction with both groups of subjects (Field et al., 1982). This study supports findings from other research that indicates typically developing peers engage in more social interactions and are more discriminating in their social contacts than young children with disabilities.

A limitation of the study was that the subjects with mild delays were all classmates, but the typically developing subjects were from three different classrooms. The difference in how closely acquainted the subjects were may have had some affect on the types of social interactions that were observed.

Blackmon and Dembo (1984) studied prosocial interactions as a measurement of friendship toward children with disabilities in an integrated preschool class on a university campus. Prosocial interaction was defined as those behaviors that were directed to a peer that were empathetic, helpful, or altruistic. The subjects were 32 typically developing children and 13 children with developmental disabilities between the ages of three to five years. An additional 17 children in the setting were excluded from the study with no explanation.

Each typically developing subject was observed during six 10-minute sessions for a total of 60 minutes over a
six-week period. During the observation, the subject's prosocial behaviors toward peers were rated. In addition, the typically developing subjects were interviewed concerning their motivation for prosocial behaviors and their answers were coded in one of three ways: social responsibility norm, reciprocity norm, or true altruism (Blackmon & Dembo, 1984).

Subjects with disabilities were less likely to be recipients of prosocial behaviors from typically developing subjects. The prosocial behaviors the subjects with disabilities received from their typically developing peers were always altruistic. The results of the interviews indicated that the typically developing subjects' motivations for prosocial behaviors fell under the category of the social responsibility norm (Blackmon & Dembo, 1984).

Only the prosocial interactions and behaviors of the typically developing subjects were addressed. The study would have been strengthened if the prosocial interactions and behaviors of the subjects with disabilities also had been addressed. Then the data could have been analyzed to determine if there were any differences or similarities in the prosocial interactions and behaviors exhibited by the two groups.
Evans, Salisbury, Palombaro, Berryman and Hollowood (1992) investigated the peer interactions and social acceptability of children with severe disabilities in an inclusive setting. The subjects were eight children with severe physical disabilities. Even though all of the subjects' classmates participated in some aspects of the study, a smaller subgroup of their classmates matched only for gender was randomly selected to serve as a comparison group. The subjects ranged in age from five to eight years and attended kindergarten, first or second grade classrooms in an elementary school. The teaching teams consisted of a general education and special education teacher plus aides. Inservice training focusing on curriculum adaptations and instructional practices for inclusion was provided before the project began.

The instrumentation used was the Assessment of Social Competence (ASC), a rating of social competence that was completed by the teachers. The ASC is a criterion-referenced assessment that measures 11 social functions and allows a limited skill or behavior to be scored as effective if it fits the requirement of a given social interaction (Meyer, Cole, McQuarter, & Reichie, 1990).

Classroom observation of coded social interaction (one minute x 15 times per month for six months, total time =
1.5 hours per subject), and sociometric measurement also was used. The sociometric measurement was completed mid-year after the subjects had a reasonable amount of time to form friendships and personal preferences. Each child without disabilities was shown photographs of all of his or her classmates and asked to, "Show me who you'd like most to play with" (Evans et al., 1992, p. 207). The first three nominations were used. Then each child without disabilities was shown a smaller group of pictures: including photos of each of the subjects with severe disabilities in their class and the photos of each child in their class from the comparison subgroup. Each child was initially asked if he or she knew the child in each photo as a validity check of the clarity of the photos. Then each child was asked as each photo presented, "Do you play with him or her?" (Evans et al., 1992, p. 207). The second question asked about each photo was "Is this person your friend?" (Evans et al., 1992, p. 207). The aggregate of the two rankings was used to determine the social status/acceptance score. Three weeks later, four children from each class were randomly selected and the procedure was repeated as a reliability check. The first and second grade children had 100% retest reliability, but the kindergarten children scored 80% on the sociometric
measurement. Results of the sociometric analysis showed that some of the subjects with severe disabilities received among the highest social acceptance scores in their classes while some of the other subjects with disabilities and their classmates in the comparison subgroup did not receive any nominations. No statistically significant agreement was found between the social acceptance scores and the number of times the subjects with disabilities and the subjects in the comparison subgroup were identified by their classmates as someone with whom they frequently played (Evans et al., 1992).

Classroom observation indicated the subjects with severe disabilities received significantly more interactions than they initiated, \( t(7) = 4.2, p < .01 \) (Evans et al., 1992, p. 209). Peers without disabilities were reported as having more reciprocal interactions. Results of ASC showed subjects with disabilities scored significantly lower than the matched subgroup. Although their scores did not correlate with the sociometric acceptance measurement, the scores did correlate with the number of social interactions subjects initiated. Interactions initiated and received by the subjects with severe disabilities decreased over the six months of data collection. The authors interpreted these findings by
suggesting that, as the year progresses, the novelty of the subjects with severe disabilities may wear off, and they may begin to be treated in a more natural way by others in the classroom setting (Evans et al., 1992).

Observations of social interaction were done only in the classroom and not outdoors during recess where there may have been more unrestricted play and opportunities for social interaction. The results of the study indicated that social acceptance when determined by sociometric ratings is not necessarily lower for children with disabilities compared to their peers without disabilities in an inclusive class. Children with disabilities were found to vary from high to low social status. In addition, the social acceptance rating of children with disabilities is not necessarily related to social competence as rated by teachers or the number of social interactions that were observed. Sociometric ratings may be more unreliable with younger children. This study showed children with disabilities scored lower in social competence and had fewer social relationships when compared to peers in the same inclusive setting. In addition, without specific intervention, frequency of social interactions decreased over time for children with severe disabilities (Evans et al., 1992).
Studies (Cavallaro & Porter, 1980; Field et al., 1982; Blackmon & Dembo, 1984; Evans et al., 1992) clearly have shown that typically developing children possess certain skills or behaviors that increase their social interactions with others. For instance, they are more likely to be successful in their initiation of an interaction with another peer and they are more discriminating in their selection of peers than children with disabilities who were studied are. Young children who are socially competent engage in satisfying interactions and activities with adults and peers, and through such interactions, continue to improve their social competence behaviors. They learn to coordinate their behavior with others by finding commonalties, exchanging knowledge, and investigating differences and similarities. Children who lack social competence skills may have had limited opportunities to develop and practice the appropriate skills. Children who tend to play alone or whom their peers reject because they lack the skills required to interact competently with others may benefit from intervention (Katz & McClellan, 1997).

Procedures for conducting this study on facilitating social development using play groups in an early childhood setting are described in Chapter Three.
CHAPTER 3

METHODOLOGY

The purpose of this study is to investigate the efficacy of facilitated and nonfacilitated play groups as an intervention for facilitating the social interactive behaviors of children with and without disabilities. The methods used are described in this chapter as well as the procedures for addressing the research questions that guided the study.

Subjects

 Subjects in the study were young children ages four to five years (mean = 4.5 years), attending preschool classes at the University of Nevada, Las Vegas (UNLV)/Consolidated Students of the University of Nevada, Las Vegas Preschool (CSUN). UNLV/CSUN Preschool is a community-based preschool located on the campus of UNLV. Subjects included children with and without disabilities. Criteria for selection of subjects with disabilities were as follows: a) qualify for special education and/or related services, b) have an Individualized Education Program (IEP) and c) attend the
UNLV/CSUN Preschool. The specific eligibility for each subject with a disability was recorded. Subjects without disabilities were those children who a) do not qualify for special education and/or related services, b) do not have an IEP, c) have not been identified as other than preschool children who are typically developing and d) currently attend the UNLV/CSUN Preschool. Both groups of subjects attended the preschool for four days per week during the same 2.5 hour period per day. Parents signed a human subject consent agreement for their child to participate in the study.

For selection and matching purposes, the Social Skills Rating System (SSRS) by Gresham and Elliott (1990), was used to measure the frequency and the importance of social behaviors affecting the subject's development of social competence and adaptive functioning. A standard score was obtained for each subject from the behavior rating form completed by the preschool classroom teacher. Table 1 presents child characteristics information by group.

Group Assignment

Subjects were selected and groups were assigned according to the following steps:
Table 1

Child Characteristics by Play Group

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Facilitated</th>
<th>Nonfacilitated</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n=8</td>
<td>n=8</td>
<td>N=16</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Female</td>
<td>5</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disability</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>No Disability</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>7</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>African-American</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>4.7</td>
<td>4.3</td>
<td>4.5</td>
</tr>
<tr>
<td>Range</td>
<td>4.7 - 5.2</td>
<td>4.0 - 4.11</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-----------</td>
<td>-----------</td>
<td></td>
</tr>
</tbody>
</table>

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1) For each child meeting the selection criteria, the preschool classroom teacher completed the SSRS to obtain a standard score of social skill behaviors from the subscales of cooperation, assertion, and self-control.

2) The children were stratified into groups, one group with disabilities and one group without disabilities.

3) A mean of the standard scores for the children with and without disabilities was established to determine high and low score clusters for the purpose of equally distributing subject selection and placement into the facilitated and nonfacilitated play groups.

4) Two children with disabilities who scored in the high group score cluster were assigned randomly to the facilitated play group. Two children with disabilities who scored in the low group score cluster were assigned randomly to the facilitated play group. Two children without disabilities who scored in the high group score cluster were assigned randomly to the facilitated play group. Two children without disabilities who scored in the low group score cluster were assigned randomly to the facilitated play group ($N = 8, n = 4$ with disabilities, $n = 4$ without disabilities).
The same procedure as above was used to select subjects for the nonfacilitated play group \((N = 8, n = 4\) with disabilities, \(n = 4\) without disabilities).

The subjects were assigned to two groups, one consisting of four subjects with disabilities and four subjects without disabilities and one consisting of four subjects with disabilities and four subjects without disabilities. The facilitated play group consisted of subjects within five months of age of each other, with group assignment determined by age at the beginning of the study. The nonfacilitated play group consisted of subjects within 11 months of age of each other, with group assignment determined by age at the beginning of the study. Four subjects with disabilities were assigned to each group. In each play group, the subjects had a range of disabilities reported as autism, mental retardation, developmental delays, and orthopedic impairments, such as cerebral palsy. Table 2 shows standard scores for child characteristics by group and disability status on the SSRS Social Skills Scales and the Problem Behaviors Scales (Gresham & Elliott, 1990).
Table 2

**Child Characteristics by Group and Disability Status on SSRS Pretest**

<table>
<thead>
<tr>
<th>Group</th>
<th>Disability</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Skills</td>
<td>Facilitated</td>
<td>82.75</td>
<td>10.54</td>
</tr>
<tr>
<td>Facilitated</td>
<td>No Disability</td>
<td>106.75</td>
<td>9.07</td>
</tr>
<tr>
<td>Total (n=8)</td>
<td>94.75</td>
<td>10.63</td>
<td></td>
</tr>
<tr>
<td>Nonfacilitated</td>
<td>Disability</td>
<td>84.25</td>
<td>16.66</td>
</tr>
<tr>
<td>Nonfacilitated</td>
<td>No Disability</td>
<td>105.50</td>
<td>6.03</td>
</tr>
<tr>
<td>Total (n=8)</td>
<td>94.88</td>
<td>16.23</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Disability</td>
<td>83.50</td>
<td>16.36</td>
</tr>
<tr>
<td>No Disability</td>
<td>106.13</td>
<td>7.16</td>
<td></td>
</tr>
<tr>
<td>Total (n=16)</td>
<td>94.81</td>
<td>16.08</td>
<td></td>
</tr>
<tr>
<td>Problem Behaviors</td>
<td>Facilitated</td>
<td>103.50</td>
<td>13.03</td>
</tr>
<tr>
<td>Facilitated</td>
<td>No Disability</td>
<td>80.25</td>
<td>25.75</td>
</tr>
<tr>
<td>Total (n=8)</td>
<td>91.88</td>
<td>22.61</td>
<td></td>
</tr>
<tr>
<td>Nonfacilitated</td>
<td>Disability</td>
<td>102.50</td>
<td>11.82</td>
</tr>
<tr>
<td>Nonfacilitated</td>
<td>No Disability</td>
<td>68.50</td>
<td>18.27</td>
</tr>
<tr>
<td>Total (n=8)</td>
<td>95.50</td>
<td>16.09</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disability</td>
<td>Total (N=16)</td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>Total Disability</td>
<td>103.00</td>
<td>93.69</td>
<td></td>
</tr>
<tr>
<td>No Disability</td>
<td>84.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11.53</td>
<td>19.05</td>
<td></td>
</tr>
</tbody>
</table>
Play Group Setting and Procedure

Subjects were brought to the preschool by their parents or the school bus driver each day. Each eight-child play group was scheduled for 20 minutes per day, four days per week, for four weeks (16 sessions) during a morning period. The facilitated and nonfacilitated play groups were rotated on a daily basis, so that each group had eight sessions as the first play group in the playroom setting and each had eight sessions as the second play group of the day to enter the playroom setting. For one week prior to beginning the study, children enrolled in the classroom in which the playroom was located had an opportunity to play in the room during daily center choice activities. This gave all children in the class a chance to explore the environment with the video camera mounted in room. It also allowed the facilitator an opportunity to familiarize herself further with her role and responsibilities prior to the study beginning.

The facilitated play group had eight subjects ages four to five years consisting of four subjects with disabilities and four subjects without disabilities. This group was assigned the adult facilitator who was trained to encourage social and play interactions among the children using the guided participation strategies adapted from the
Integrated Play Groups Resource Manual (Wolfberg & Schuler, 1992). The manual was reorganized for the purpose of this study. In the Integrated Play Groups Resource Manual, guided participation is an important feature of the Integrated Play Groups intervention, which focuses on the adult's role as a facilitator to guide children to participate in play activities. The approach involved three strategies considered to be interrelated including scaffolding interactions, social-communicative guidance and play guidance. For the purpose of this study, the guided participation strategies were reorganized into two distinct categories. The adult was responsible for facilitating the interactions of the subjects assigned to the play group through guided participation strategies, which included: a) modeling - when the adult actively sets the stage and actively participates in the play group by demonstrating the appropriate use of social behaviors during play group activities; b) coaching - when the adult uses a direct verbal or gestural instruction technique that describes the desired behavior. Facilitation by the adult includes modeling and/or coaching for individuals and the group as the need arises, as well as monitoring the children. The adult facilitator intervened if safety concerns arose.
The nonfacilitated play group had eight subjects ages four to five years consisting of four subjects with disabilities and four subjects without disabilities. They met in the same playroom setting and were presented with the same toys and materials as the facilitated group. However, no adult facilitation was provided. Instead, an adult was present to monitor the children and asked specifically not to intervene unless a safety concern arose. For consistency across groups, the same adult was assigned to both groups throughout the study.

Subjects participated in group and individual activities typical of preschool programs, including circle time and center choices such as art, snack, computers, math/science, library, and writing center. Two 20-minute play group sessions during the time period allocated to the daily center choices were used to assemble the play groups in a separate playroom within the classroom on a rotating basis. The playroom was set up to resemble one of the classroom centers with a theme such as grocery store, doctor's office, tea party, fast food restaurant, and camping out. Hendrickson, Tremblay, Strain and Shores (1981) investigated what type of toys and play materials were used during various types of play. The results indicated that the kinds of toys and play materials that
were used during sharing and cooperative play which they operationally defined as, "including mutual use or exchange of object(s) or materials" (p. 501) were books, balls, puppet stage, dress-up clothes, post office toy, giant pillow, clay and play dough, blocks and toy housekeeping materials. Each week, appropriate materials and toys were chosen for props that would enhance the weekly classroom theme while facilitating the social interaction behaviors among the subjects in the groups. Table 3 depicts the weekly classroom theme and additional materials, toys and props that were used during the study.

The subjects' social interactive behaviors were video recorded using a camcorder mounted on the wall at the ceiling of the designated playroom. All subjects were video recorded during each of the 16 sessions. Only the video recordings obtained during week one (initial measure) and week four (final measure) were observed and analyzed because the high level of absenteeism for both groups made it difficult for data to be consistently collected for all subjects. Each subject was observed for a total of 36 minutes (two 10-minute segments and two 8-minute segments) over the four-week period. Two trained observers using two separate scales, one focusing on positive and negative interactions and the other on 15 categories of social
interactive behaviors, analyzed the video taped recordings. For the scale that the observers used to record positive and negative interactions, they had to view approximately eight minutes (six intervals per minute x eight minutes = 48 intervals of data) of video tape to record 48 intervals of data for each target subject. Observations of each subject were conducted during week one and four of the play group sessions for a total of two observations or 16 minutes (two observations x eight minutes per session = 16 minutes of observation) per target subject. The trained observers used the second observational measure to collect data for each subject over four 1-minute intervals during one 10-minute observation session, then the number of times each of the 15 behaviors were observed during the session were quantified. Observations of each subject were conducted during week one and four of the play group sessions for a total of two 10-minute (20 minutes) observations per subject.

Prior to the observations, the two observers were trained on the two observational scales using video tape of non-subject children from within the preschool setting. Percentage of agreement was calculated by dividing the sum of agreements by the sum of agreements plus disagreements and multiplying this quotient by 100. Interobserver
### Table 3

**Weekly Themes, Materials and Toys Utilized With the Play Groups**

<table>
<thead>
<tr>
<th>Week</th>
<th>Theme</th>
<th>Materials, Toys, and Props</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trial Week</td>
<td>Snow</td>
<td>Dress-up clothes: Hats, mittens, scarves, ski boots and goggles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Props: Shredded paper for snow, snowman on the wall</td>
</tr>
<tr>
<td>One</td>
<td>Snow</td>
<td>Dress-up clothes: Hats, gloves, mittens, scarves, ski boots and goggles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Props: Shredded paper for snow</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Materials: Construction paper circles and snowflakes</td>
</tr>
<tr>
<td>Two</td>
<td>Dinosaurs Toys: Variety of dinosaurs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Materials: Dinosaur books and puzzles, paper cut-outs of</td>
</tr>
</tbody>
</table>
Thraa Dinosaur
Four Saaahor
dinosaurs and dinosaur map on the wall
Props: Dinosaur cave

Three Dinosaurs
Toys: Variety of large and small dinosaurs
Props: Dinosaur bones and sand table
Materials: Dinosaur blocks and footprints.

Four Seashore
Dress-up clothes: Beach clothes, sandals, sunglasses and towels
Props: Sandbox, sand pails, shovels
Materials: Seashells, starfish
Toys: Hidden treasure game

Note. Play group themes were aligned with the classroom's weekly themes.
reliability was established at a minimum average criterion of 80% on each of the scales prior to beginning the study. Interobserver reliability was rechecked prior to each observed play group session for both of the scales. The mean interobserver agreement for the scale focusing on positive and negative interactions of the subjects was 86.6% (range 79.2%–93.8%). The mean interobserver agreement for the scale focusing on 15 categories of social interactive behaviors of the subjects was 90.0% (range 81.7%–96.7%). The SSRS measure was readministered with the classroom teachers at the completion of the study for each of the subjects.

Observational Measures

The Social Interaction Observation System (SIOS) by Kreimeyer, Antia, Coyner, Eldredge, and Gupta (1991) was designed originally to provide descriptive information on the social behaviors of children with hearing impairments during their interactions with peers. It was judged to be appropriate for use in this study because the observations conducted with the SIOS are designed to occur during a free play period of at least 10 minutes. The SIOS is based on an interval observation system and has a list of 15 behaviors; a child is observed for a specified interval and
the behaviors that occurred during that interval are
recorded. Table 4 details the specific behaviors that are
included on the SIOS. The SIOS data were collected by the
trained observers of each subject over four 1-minute
intervals during the 10-minute observation session, then
the number of times each of the 15 behaviors were observed
during the session were quantified. Observations of each
subject were conducted during week one and four of the play
group sessions for a total of two 10-minute observations
(20 minutes) per subject.

The Observer Manual was developed by Antia, Kreimeyer,
and Eldredge (1990) for Project Interact and allows the
observer to code the target child's interactions as: 1) positive
and negative and 2) linguistic (signed or oral) and non-linguistic.
Project Interact also tracks who the target child is interacting with using the following codes:
1) hearing-impaired (HI); 2) a trained hearing peer (T); or
3) an untrained peer (U). For the purposes of this study,
the data recording procedures were adapted to identify and
code only the quality of the interactions of the target
child. Interaction refers to "conversation, cooperative
play, exchange of materials or physical contact between two
or more persons" (Antia, Kreimeyer & Eldredge, 1990, p. 1).
Each interaction can be classified in a qualitative
manner as positive or negative. Positive interaction is "normal conversation, including giving requests and polite refusals, displaying physical signs of affection such as hugging and holding hands" (p. 2). Negative interaction is "snatching materials or toys from a peer without asking and receiving permission, shouting, hitting, throwing, pulling or pushing away" (p. 2). Table 5 depicts the definitions of positive and negative interaction used during this study. The target subject was observed for five seconds, then a prerecorded audio cassette beeped to indicate that the observers were to record the behavior observed during the interval. When the audio cassette beeped again, the observers returned to viewing the video tape for the next five seconds until the audio cassette beeped again to signal it was time to record the behavior just observed. This cycle of observation and recording continued until a total of 48 intervals of data for each target subject were recorded during each of the observation sessions. The observers had to view approximately eight minutes (six intervals per minute x eight minutes = 48 intervals of data) of video tape to record 48 intervals of data for each target subject. Observations of each subject were conducted during week one and four of the play group sessions for a total of two observations or 16-minutes.
Table 4

**Descriptions for 15 Social Behaviors on the Social Interaction Observation System (SIOS)**

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIOS One</td>
<td>Child engages in positive interaction with peer(s).</td>
</tr>
<tr>
<td>SIOS Two</td>
<td>Child directs negative behaviors to peer(s).</td>
</tr>
<tr>
<td>SIOS Three</td>
<td>Child engages in nonplay behaviors.</td>
</tr>
<tr>
<td>SIOS Four</td>
<td>Child engages in solitary play.</td>
</tr>
<tr>
<td>SIOS Five</td>
<td>Child engages in parallel play.</td>
</tr>
<tr>
<td>SIOS Six</td>
<td>Child engages in associative and/or cooperative play.</td>
</tr>
<tr>
<td>SIOS Seven</td>
<td>Child engages in positive linguistic interaction.</td>
</tr>
<tr>
<td>SIOS Eight</td>
<td>Peer(s) initiate interaction towards child.</td>
</tr>
<tr>
<td>SIOS Nine</td>
<td>Child responds positively to peer(s) initiation.</td>
</tr>
<tr>
<td>SIOS Ten</td>
<td>Child responds negatively to peer(s) initiation.</td>
</tr>
<tr>
<td>SIOS Eleven</td>
<td>Child makes no response to peer(s) initiation.</td>
</tr>
<tr>
<td>SIOS Twelve</td>
<td>Child initiates interaction toward peer(s).</td>
</tr>
<tr>
<td>SIOS Thirteen</td>
<td>Peer(s) respond positively to children’s initiations.</td>
</tr>
<tr>
<td>SIOS Fourteen</td>
<td>Peer(s) respond negatively to child’s initiations.</td>
</tr>
<tr>
<td>SIOS Fifteen</td>
<td>Peer(s) makes no response to child’s initiation.</td>
</tr>
</tbody>
</table>
Note. From Social interaction observation system: Project interact
(pp. 4-6), by K. Kreimeyer, S. Antia, L. Coyner, W. Eldredge and A.
(2 observations x 8 minutes per session = 16 minutes of observation) per target subject.

The Social Skills Rating System (SSRS) by Gresham and Elliott, (1990), was used in this study and was administered by the classroom teacher prior to and after the intervention occurred as an index of the change in the social skills of the subjects. The SSRS is a multi-rater norm-referenced assessment of child social behaviors. The SSRS components include teacher, parent, and student behavior rating forms. Each questionnaire is designed to measure how often a child exhibits certain social skills. For this study, the SSRS Social Skills Questionnaire (teacher form) for preschool children age’s three to five years was used. The questionnaire contains 30 questions addressing three subscales including cooperation, assertion, and self-control. All social skills are rated for frequency and for importance. Table 6 shows the specific scales and subscales. The SSRS offers standard scores and percentile ranks. Three methods were used to estimate the reliability or the consistency of the test scores obtained from repeated testing of a subject with the same or a similar test. Gresham and Elliott (1990) reported across the teacher and parent forms for the preschool, elementary, and secondary levels and the student
### Table 5

**Operational Definitions for Coding Interactions on the Observer Manual**

<table>
<thead>
<tr>
<th>Interaction</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interaction</td>
<td>Conversation and cooperative play (which includes imitative games such as Follow The Leader), exchange of materials or physical contact between two or more persons. If two persons are playing together with the same toy, this is considered an interaction; i.e., passing a ball back and forth or sharing a blanket when playing house.</td>
</tr>
<tr>
<td>Positive Interaction</td>
<td>Conversation, including giving requests and polite refusals, sharing materials, playing cooperatively, interactive games, cooperative play and physical signs of affection such as hugging or holding hands.</td>
</tr>
<tr>
<td>Negative Interaction</td>
<td>Snatching materials or toys from a peer without asking and receiving permission, shouting, hitting, throwing, pulling or pushing away.</td>
</tr>
</tbody>
</table>
forms for the elementary and secondary levels. Across all forms and levels, "the median coefficient alpha reliability for the Social Skills Scale was .90 and for the Problem Behaviors Scale was .84. The internal consistency estimates for the teacher, parent, and student forms ranged from .83 to .94 for the Social Skills Scale and .73 to .88 for Problem Behaviors Scale" (p. 110). Gresham and Elliott (1990) reported the test-retest reliability of the SSRS was measured by having samples of parents, teachers, and students from the Elementary standardization sample rate the same students four weeks after their original standardization ratings. The test-retest reliability correlation's for the teacher ratings, "was .85 for total scale of Social Skills and .84 for the total scale of Problem Behaviors" (p. 111). The results suggest high test-retest reliability for the Social Skills and Problem Behaviors Scales for the teacher form. Validity exists when the scale measures what it purports to measure. According to Gresham and Elliott (1990), the studies that were conducted to evaluate the validity of the SSRS provide strong evidence in support of the construct validity of the SSRS (p. 142). The teacher version of the behavior rating form specifically designed for preschool children ages three to five was used in this study.
Interscorer Reliability

The Social Skills Rating System (SSRS) was administered as a pretest and a posttest to all subjects in the facilitated and nonfacilitated play groups. Interscorer reliability checks were conducted to ensure correct scoring. A school psychologist and the primary researcher independently scored all of the pretests and the posttests. Interval agreement (i.e., \[\text{Agreements} - \frac{(\text{Agreements} + \text{Disagreements}) \times 100}{\text{Agreements}} = \text{Percent of Agreement}\]) was calculated using the point by point method (Tawny & Gast, 1984). Interscorer reliability was 100%.

The Integrated Play Groups Resource Manual (Wolfberg & Schuler, 1992) was used in this study in training the adult as the facilitator of the facilitated play group using guided participation strategies such as modeling and coaching.

The Integrated Play Groups [Videotape] (Wolfberg & Schuler, 1992) was also viewed and used in training the adult as the facilitator of the facilitated play group using guided participation strategies such as modeling and coaching. The adult who was trained to assume the role of the facilitator of the facilitated play group was the same adult who assumed the role of the monitor of the nonfacilitated play group. The adult received the same
training for both play groups. However, the level of adult facilitation that was applied varied between the groups.

Analyses of the data and findings are reported in Chapter 4.
<table>
<thead>
<tr>
<th>Scales</th>
<th>Subscales</th>
<th>Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Skills</td>
<td>Cooperation</td>
<td>Behaviors such as helping others, sharing materials, and complying with rules and directions.</td>
</tr>
<tr>
<td>Assertion</td>
<td></td>
<td>Initiating behaviors, such as asking others for information, introducing oneself, and responding to the actions of others.</td>
</tr>
<tr>
<td>Self-Control</td>
<td></td>
<td>Behaviors that emerge in conflict situations, such as responding appropriately to teasing, and in nonconflict situations that require taking turns and compromising.</td>
</tr>
<tr>
<td>Problem Behaviors</td>
<td>Externalising</td>
<td>Behaviors involving verbal and physical aggression towards others, poor control of temper, and</td>
</tr>
</tbody>
</table>
arguing.

Internalizing Behaviors indicating anxiety, sadness, loneliness, and poor self-esteem.

CHAPTER 4

FINDINGS OF THE STUDY

This study investigated the use of facilitated play groups as a means for facilitating social development of young children with and without disabilities in an inclusive early childhood setting. In the study, a pretest, video taped observations, and a posttest were completed on the subjects who participated in the facilitated or nonfacilitated play group.

Social Skills Rating System Pretest Scores

Two classroom teachers completed a Social Skills Rating System on potential subjects prior to their assignment to a facilitated or nonfacilitated play group. This permitted the researcher to determine any differences between the scores of the subjects with and without disabilities. Table 7 shows data from an analysis of variance for the Social Skills Scale Scores used as the pretest for potential subjects with and without disabilities. The primary researcher's impression was confirmed that disability status was an important
consideration when assigning children by disability to each of the groups. The pretest scores obtained by the subjects with and without disabilities on the SSRS showed a statistically significant difference by disability status. Therefore, a stratified random sample was used to ensure four children with disabilities and four children without disabilities with similar pretest scores on the Social Skills Rating System (Gresham & Elliott, 1990) were assigned to each of the play groups.

Table 7

Univariate Test on Disability Status for Social Skills Rating Scales - Social Skills Scale Pretest

<table>
<thead>
<tr>
<th>Effect</th>
<th>DF</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td>2,11</td>
<td>5.497</td>
<td>.022*</td>
</tr>
</tbody>
</table>

*p < .05

Descriptive statistics for the facilitated and nonfacilitated play groups are summarized by group and disability status for the Social Skills Rating System - Social Skills Scale and Problem Behaviors Scale Pretest scores. The results appear in Table 8.
### Table 8

**Social Skills Scale and Problem Behaviors Scale Pretest**

Scores by Group and Disability on the Social Skills Rating System

<table>
<thead>
<tr>
<th>Pretest</th>
<th>Group</th>
<th>Disability</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social</td>
<td>Facilitated</td>
<td>Disability</td>
<td>82.75</td>
<td>18.54</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>No Disability</td>
<td>106.75</td>
<td>9.07</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>94.75</td>
<td>18.63</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Nonfacilitated</td>
<td>Disability</td>
<td>84.25</td>
<td>16.66</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>No Disability</td>
<td>105.50</td>
<td>6.03</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>94.88</td>
<td>16.23</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>Disability</td>
<td>83.50</td>
<td>16.34</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>No Disability</td>
<td>106.13</td>
<td>7.16</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>94.81</td>
<td>16.23</td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>Problem Behaviors</td>
<td>Facilitated</td>
<td>Disability</td>
<td>103.50</td>
<td>13.03</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>No Disability</td>
<td>80.25</td>
<td>25.75</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>91.88</td>
<td>22.61</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Nonfacilitated</td>
<td>Disability</td>
<td>102.50</td>
<td>11.82</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>No Disability</td>
<td>88.50</td>
<td>18.27</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>95.50</td>
<td>16.09</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>103.00</td>
<td>11.53</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>No Disability</td>
<td>84.38</td>
<td>21.13</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>-------</td>
<td>-------</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>93.69</td>
<td>19.05</td>
<td>16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A multivariate analysis of variance was performed using the SSRS Social Skills Scale and Problem Behaviors Scale Pretest scores as the dependent variables. The independent variables were play group with two levels (facilitated and nonfacilitated) and disability status with two levels (disability and no disability). Using Wilk's Lambda criterion, neither play group assignment nor disability status had a statistically significant influence on the dependent measures by the group, F(2,11) = .087, p = .917.

A follow-up univariate analysis of variance was conducted considering the Social Skills Rating System - Social Skills Scale and the Problem Behaviors Scale Pretest scores separately. There was no statistically significant difference between the facilitated and nonfacilitated play groups on the SSRS Social Skills Scale Pretest, F(1,12) = .000, p = .986. There was also no statistically significant difference between the facilitated and nonfacilitated play groups on the Social Skills Rating System Problem Behaviors Scale Pretest, F(1,12) = .161, p = .695.
Facilitated Play Group Observations

The Social Interaction Observation System (SIOS) by Kreimeyer, Antia, Coyner, Eldredge, & Gupta (1991) is based on an interval observation system and has a list of 15 behaviors; a subject is observed for a specified interval and the behaviors that occurred during that interval are recorded. The SIOS data were collected by trained observers for each subject over four 1-minute intervals during one 10-minute observation session. The number of times any of the fifteen behaviors were observed during the session was recorded. Observations of each subject were conducted during week one and four of the facilitated play group sessions for a total of two observations per subject.

Data from pre-observation and post-observation were analyzed by means of paired samples t-tests to answer research question #1 below:

1. Does adult facilitation change the social interactive behaviors demonstrated by children with and without disabilities who participate in the play groups?

The paired sample t-tests were selected to compare two dependent measures of social interactive behavior within one method (facilitated play group). Results of the paired samples t-tests indicated a statistically significant
difference for two of the fifteen behaviors; peer(s) initiate interaction towards child (SIOS #8) and child initiates interaction toward peer(s) (SIOS #12). The pre-observation score for social interactive behavior category that focused on the number of times peer(s) initiated interaction toward the target subject was 2.25. The post-observation score was 1.25 (t(7) = 2.37; p = .05). A statistically significant difference was found also for the pre-observation score for social interactive category that focused on the number of times the target subject initiated interaction toward his peer(s) and was 2.63. The post-observation score was 1.38 (t(7) = 2.63; p = .049).

The thirteen social interactive behavior categories that showed no statistically significant differences were:
1) target subject engages in positive interaction with peer(s), 2) target subject directs negative behaviors to peer(s), 3) target subject engages in nonplay behaviors, 4) target subject engages in solitary play, 5) target subject engages in parallel play, 6) target subject engages in associative and/or cooperative play, 7) target subject engages in positive linguistic interaction, 9) target subject responds positively to peer(s) initiation, 10) target subject responds negatively to peer(s) initiation, 11) target subject makes no response to peer(s) initiation,
13) peer(s) respond positively to target subject's initiation, 14) peer(s) respond negatively to target subject's initiations, and 15) peer(s) make no response to target subject's initiation. Table 9 displays the results of the paired samples t-tests.

The fifteen social interactive behavior categories of the SIOS were reorganized into two categories, positive and negative. The positive interactions score was the mean of SIOS #2, 3, 4, 10, 11, 14, 15. The negative interactions score was the mean of SIOS #1, 5, 6, 7, 8, 9, 12, 13. Paired samples t-tests were performed on the number of positive and negative interactions that occurred from pre-observation to post-observation. The results did not reveal a statistically significant effect with facilitated play and the number of positive interactions, \( t(7) = 2.160; p = .068 \) nor did facilitated play have a statistically significant effect for the number of negative interactions, \( t(7) = .000; p = 1.000 \). Table 10 displays the results of the paired sample t-tests.

Fifteen paired samples t-tests were carried out on the 15 social interactive behavior categories after the facilitated play group was divided by disability status. The paired samples t-tests analyses did not reveal a statistically significant effect for any of the 15 SIOS.
Table 9

**Paired Samples t-tests of 15 Behavioral Categories of the Social Interaction Observation System**

<table>
<thead>
<tr>
<th>Behavior</th>
<th>M Difference</th>
<th>SD</th>
<th>t-value</th>
<th>2-tail sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIOS # 1</td>
<td>-.88</td>
<td>1.89</td>
<td>1.313</td>
<td>.231</td>
</tr>
<tr>
<td>SIOS # 2</td>
<td>-.25</td>
<td>.89</td>
<td>.798</td>
<td>.451</td>
</tr>
<tr>
<td>SIOS # 3</td>
<td>.25</td>
<td>1.28</td>
<td>.552</td>
<td>.598</td>
</tr>
<tr>
<td>SIOS # 4</td>
<td>.63</td>
<td>1.60</td>
<td>1.106</td>
<td>.305</td>
</tr>
<tr>
<td>SIOS # 5</td>
<td>-1.00</td>
<td>1.85</td>
<td>1.528</td>
<td>.170</td>
</tr>
<tr>
<td>SIOS # 6</td>
<td>-.88</td>
<td>2.03</td>
<td>1.219</td>
<td>.262</td>
</tr>
<tr>
<td>SIOS # 7</td>
<td>-.50</td>
<td>1.60</td>
<td>.882</td>
<td>.407</td>
</tr>
<tr>
<td>SIOS # 8</td>
<td>-1.00</td>
<td>1.20</td>
<td>2.366</td>
<td>.050*</td>
</tr>
<tr>
<td>SIOS # 9</td>
<td>-.38</td>
<td>1.85</td>
<td>.574</td>
<td>.584</td>
</tr>
<tr>
<td>SIOS #10</td>
<td>-.13</td>
<td>.35</td>
<td>1.000</td>
<td>.351</td>
</tr>
<tr>
<td>SIOS #11</td>
<td>-.13</td>
<td>.83</td>
<td>.424</td>
<td>.685</td>
</tr>
<tr>
<td>SIOS #12</td>
<td>-1.25</td>
<td>1.49</td>
<td>2.376</td>
<td>.049*</td>
</tr>
<tr>
<td>SIOS #13</td>
<td>-1.13</td>
<td>1.64</td>
<td>1.938</td>
<td>.094</td>
</tr>
<tr>
<td>SIOS #14b</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIOS #15</td>
<td>-.38</td>
<td>1.19</td>
<td>.893</td>
<td>.402</td>
</tr>
</tbody>
</table>

* A description of each behavioral category is available in Table 4.
b The correlation and t could not be computed because the standard error of the difference was 0.

*p ≤ .05 level
Table 10

Paired Samples t-tests of Negative and Positive Interaction Categories on the Social Interaction Observation System.

<table>
<thead>
<tr>
<th>Category</th>
<th>N</th>
<th>SD</th>
<th>SE of M</th>
<th>t-value</th>
<th>DF</th>
<th>2-tail sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>7.00</td>
<td>9.17</td>
<td>3.24</td>
<td>2.160</td>
<td>7</td>
<td>.068</td>
</tr>
<tr>
<td>Negative</td>
<td>0.00</td>
<td>1.60</td>
<td>0.57</td>
<td>0.000</td>
<td>7</td>
<td>1.000</td>
</tr>
</tbody>
</table>

behavior categories for the subjects with disabilities in the experimental group. Table 11 displays the results of the paired samples t-tests.

Fifteen paired samples t-tests were carried out on the fifteen social interactive behavior categories after the file was divided by disability status for the experimental (facilitated) play group. The paired samples t-tests analyses did not reveal a statistically significant effect for any of the 15 SIOS behavior categories for the subjects without disabilities in the experimental group. Table 12 displays the results of the paired samples t-tests.
The number of positive interactions for each subject in the experimental (facilitated) play group was recorded using the Antia, Kreimeyer, and Eldredge (1990) Observer Manual during the first week of intervention and then again during the final week (four) of intervention. Paired samples t-tests revealed no statistically significant effect ($t(7) = .617; p = .557$) between the number of positive interactions recorded during week one or during the final week of intervention. Table 13 displays the results of the paired sample t-tests.

The facilitated play group was divided by disability status to determine if paired samples t-tests would reveal a statistically significant effect for subjects with or without disabilities in the number of positive interactions they displayed from pre-observation to post-observation. The paired samples t-tests revealed no statistically significant effect for the subjects with disabilities ($t(3) = .035; p = .975$) for the number of positive interactions recorded using the Observer Manual measure during the first or final week (four) of intervention. The paired samples t-tests revealed no statistically significant effect for the subjects without disabilities ($t(3) = 1.19; p = .321$) for the number of positive
Table 11

Paired Samples t-tests for Social Interaction Observation

System 15 Behavioral Categories for Subjects with Disabilities (N=6) in the Facilitated Play Group

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Diff.</th>
<th>SD</th>
<th>t-value</th>
<th>2-tail sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIOS # 1</td>
<td>-2.00</td>
<td>1.83</td>
<td>2.191</td>
<td>.116</td>
</tr>
<tr>
<td>SIOS # 2</td>
<td>- .25</td>
<td>.50</td>
<td>1.000</td>
<td>.391</td>
</tr>
<tr>
<td>SIOS # 3</td>
<td>.50</td>
<td>1.73</td>
<td>.577</td>
<td>.604</td>
</tr>
<tr>
<td>SIOS # 4</td>
<td>1.75</td>
<td>1.26</td>
<td>2.782</td>
<td>.069</td>
</tr>
<tr>
<td>SIOS # 5</td>
<td>- .75</td>
<td>2.63</td>
<td>.570</td>
<td>.608</td>
</tr>
<tr>
<td>SIOS # 6</td>
<td>-1.75</td>
<td>2.22</td>
<td>1.578</td>
<td>.213</td>
</tr>
<tr>
<td>SIOS # 7</td>
<td>-1.00</td>
<td>1.41</td>
<td>1.414</td>
<td>.252</td>
</tr>
<tr>
<td>SIOS # 8</td>
<td>-1.25</td>
<td>1.26</td>
<td>1.987</td>
<td>.141</td>
</tr>
<tr>
<td>SIOS # 9</td>
<td>- .75</td>
<td>1.71</td>
<td>.878</td>
<td>.444</td>
</tr>
<tr>
<td>SIOS #10a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIOS #11</td>
<td>- .50</td>
<td>1.00</td>
<td>1.000</td>
<td>.391</td>
</tr>
<tr>
<td>SIOS #12</td>
<td>-1.50</td>
<td>1.73</td>
<td>1.732</td>
<td>.182</td>
</tr>
<tr>
<td>SIOS #13</td>
<td>-1.25</td>
<td>1.26</td>
<td>1.987</td>
<td>.141</td>
</tr>
<tr>
<td>SIOS #14a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIOS #15</td>
<td>-1.00</td>
<td>1.41</td>
<td>1.414</td>
<td>.252</td>
</tr>
</tbody>
</table>
The correlation and $t$ could not be computed because the standard error of the difference was 0.
interactions recorded using the Observer Manual measure during either week one or the final week (four) of intervention. Table 14 displays the results of the paired samples t-tests.

Pretest and posttest data from the Social Skills Scale of the Social Skills Rating System were analyzed to answer research question #2 below:

*Do the social behavioral ratings of children with and without disabilities in facilitated and nonfacilitated play groups change over time?*

Paired samples t-tests conducted using the raw scores from the Social Skills Scale on the SSRS pretest and posttest for all subjects did not reveal a statistically significant effect ($t(15) = 1.34; p = .202$). Table 15 displays the results of the paired samples t-tests.

A multivariate analysis of variance (MANOVA) was performed using the Social Skills Rating System - Social Skills Scale and Problem Behaviors Scale Posttests as dependent variables. The independent variables were play group with two levels (facilitated and nonfacilitated play group) and disability status with two levels (disability and no disability). Using Wilk’s Lambda criterion, the dependent measures had no statistically significant effect by group, $F (2, 11) = .208, p = .815$ or
Table 12

**Paired Samples t-tests for the 15 Categories of the Social Interaction Observation System for Subjects without Disabilities (N=4) in the Facilitated Play Group**

<table>
<thead>
<tr>
<th>Behavior</th>
<th>M Difference</th>
<th>SD</th>
<th>t-value</th>
<th>2-tail sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIOS #1</td>
<td>.25</td>
<td>1.26</td>
<td>.397</td>
<td>.718</td>
</tr>
<tr>
<td>SIOS #2</td>
<td>-.25</td>
<td>1.26</td>
<td>.397</td>
<td>.718</td>
</tr>
<tr>
<td>SIOS #3</td>
<td>.00</td>
<td>.82</td>
<td>.000</td>
<td>1.000</td>
</tr>
<tr>
<td>SIOS #4</td>
<td>-.50</td>
<td>1.00</td>
<td>1.000</td>
<td>.391</td>
</tr>
<tr>
<td>SIOS #5</td>
<td>-1.25</td>
<td>.96</td>
<td>2.661</td>
<td>.080</td>
</tr>
<tr>
<td>SIOS #6</td>
<td>.00</td>
<td>1.63</td>
<td>.000</td>
<td>1.000</td>
</tr>
<tr>
<td>SIOS #7</td>
<td>.00</td>
<td>1.83</td>
<td>.000</td>
<td>1.000</td>
</tr>
<tr>
<td>SIOS #8</td>
<td>-.75</td>
<td>1.26</td>
<td>1.192</td>
<td>.319</td>
</tr>
<tr>
<td>SIOS #9</td>
<td>.00</td>
<td>2.16</td>
<td>.000</td>
<td>1.000</td>
</tr>
<tr>
<td>SIOS #10</td>
<td>-.25</td>
<td>.50</td>
<td>1.000</td>
<td>.391</td>
</tr>
<tr>
<td>SIOS #11</td>
<td>.25</td>
<td>.50</td>
<td>1.000</td>
<td>.391</td>
</tr>
<tr>
<td>SIOS #12</td>
<td>-1.00</td>
<td>1.41</td>
<td>1.414</td>
<td>.252</td>
</tr>
<tr>
<td>SIOS #13</td>
<td>-1.00</td>
<td>2.16</td>
<td>.926</td>
<td>.423</td>
</tr>
<tr>
<td>SIOS #14a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>SIOS #15</td>
<td>- 0.25</td>
<td>0.50</td>
<td>1.000</td>
<td>0.391</td>
</tr>
</tbody>
</table>

a The correlation and t could not be computed because the standard error of the difference was 0.
Table 13

Paired Samples t-tests of Positive Interactions of the
Facilitated Play Group Using the Observer Manual

<table>
<thead>
<tr>
<th>Category</th>
<th>M</th>
<th>SD</th>
<th>t-value</th>
<th>DF</th>
<th>2-tail sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>2.50</td>
<td>11.46</td>
<td>.617</td>
<td>7</td>
<td>.557</td>
</tr>
</tbody>
</table>

by disability status, $F(2, 11) = 3.829, p = .055$. The

test for interaction between group and disability status
also was not statistically significant, $F(2, 11) = .203, p = .819$. A follow-up univariate analysis of variance was

conducted looking at the Social Skills Scale scores and the

Problem Behaviors Scales scores separately. The only

statistically significant relationship was between
disability status and the dependent variable, SSRS Social

Skills Scale Posttest, $F(1,12) = 7.696, p = .017$. 

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An independent samples t-test was conducted to look further at disability status on the dependent variable, SSRS Social Skills Scale Posttest. A statistically significant difference \((t(14) = 2.935, p = .011)\) was found between subjects with and without disabilities on the SSRS Social Skills Scale Posttest. Table 16 summarizes the independent samples t-test conducted on the Social Skills Rating System - Social Skills Scale Posttest.

Data from the pretests and posttests from the Problem Behaviors Scale of the Social Skills Rating System were

### Table 16

Paired Samples t-tests on Positive Interactions on the Observer Manual in the Facilitated Play Group by Disability Status

<table>
<thead>
<tr>
<th>Disability Status</th>
<th>M</th>
<th>SD</th>
<th>t-value</th>
<th>df</th>
<th>2-tail sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disability</td>
<td>.25</td>
<td>14.43</td>
<td>.035</td>
<td>3</td>
<td>.975</td>
</tr>
<tr>
<td>No Disability</td>
<td>5.25</td>
<td>8.85</td>
<td>1.187</td>
<td>3</td>
<td>.321</td>
</tr>
</tbody>
</table>

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Table 15

Paired Samples t-tests on Raw Scores of Social Skills Scale on the Social Skills Rating System

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>M Difference</td>
<td>SD</td>
<td>t-value</td>
<td>2-tailed sig.</td>
<td></td>
</tr>
<tr>
<td>Social Skills Scale</td>
<td>2.31</td>
<td>6.93</td>
<td>1.336</td>
<td>.202</td>
</tr>
</tbody>
</table>

analyzed to answer research question #3 below:

Do the problem behavioral ratings of children with and without disabilities in facilitated and nonfacilitated play groups change over time?

The paired samples t-tests conducted using the raw scores from the Problem Behaviors Scales on the SSRS Pretest and raw scores from the Problem Behaviors Scales on the SSRS Posttest for all subjects did reveal a statistically significant effect ($t(15) = 2.31; p = .023$). The pretest score for Problem Behaviors Scale revealed that
Table 16

**Independent Samples t-test on Social Skills Rating System**

- **Social Skills Scale Posttest**

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SE</th>
<th>t</th>
<th>DF</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difference</td>
<td>-14.00</td>
<td>4.77</td>
<td>2.935</td>
<td>14</td>
<td>.011*</td>
</tr>
</tbody>
</table>

*P < .05

Each subject had a mean of 3.44. The posttest score for the Problem Behaviors Scale showed each subject had a mean of 2.50. Table 17 displays the results of the paired samples t-tests.

A multivariate analysis of variance (MANOVA) was performed using the Social Skills Rating System - Social Skills Scale and Problem Behaviors Scale Posttests as dependent variables. The independent variables were play group with two levels (facilitated and nonfacilitated play group) and disability status with two levels (disability...
Table 17

Paired Samples t-tests on Raw Scores of Problem Behaviors Scale on the Social Skills Rating System

<table>
<thead>
<tr>
<th>Problem Behaviors</th>
<th>Paired Difference</th>
<th>SSRS</th>
<th>SD</th>
<th>SE of M</th>
<th>t-value</th>
<th>DF</th>
<th>2-tailed sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>.94</td>
<td>1.48</td>
<td>.37</td>
<td>2.531</td>
<td>15</td>
<td>.023*</td>
</tr>
</tbody>
</table>

*P < .05 level.

and no disability). Using Wilk’s Lambda criterion, the dependent measures had no statistically significant effect by group, F (2, 11) = .208, p = .815 or by disability status, F (2, 11) = 3.829, p = .055. The test for interaction between group and disability status also was not statistically significant F (2, 11) = .203, p = .819.

A follow-up univariate analysis of variance was conducted looking at the Social Skills Scale scores and the Problem Behaviors Scale scores separately. The univariate analysis of variance was conducted on the disability status and the dependent variable, SSRS Problem Behaviors Scale Posttest. Results revealed there was not a statistically significant relationship between disability status and the dependent variable, SSRS Problem Behaviors Scale Posttest.
\( F (1,12) = 4.107, \ p = .066. \) Table 18 summarizes the univariate analysis of variance conducted on disability status and the SSRS Problem Behaviors Scale Posttest.

An independent samples t-test was conducted to further look at disability status on the dependent variable, SSRS Problem Behaviors Scale Posttest. A statistically significant difference (\( t(8.03) = 2.174, \ p = .061 \)) was not found between subjects with and without disabilities on the SSRS Problem Behaviors Scale Posttest. Table 19 reveals the Social Skills Rating System - Problem Behaviors Scale Posttest had no statistically significant effect by disability status.

Individual performance analyses of the subjects with disabilities in the experimental (facilitated) group showed one subject had increased scores, one subject’s scores remained the same and two of the subjects had slightly decreased scores on the SSRS Social Skills Scale from pretest to posttest.

Of the subjects with disabilities in the control group (nonfacilitated), two subjects had increased scores and two subjects had slightly decreased scores on the SSRS Social
Table 18

Univariate Analysis on Disability Status and Social Skills

Rating System - Problem Behaviors Scale Posttest

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td>1</td>
<td>390.063</td>
<td>390.063</td>
<td>4.107</td>
<td>.063</td>
</tr>
</tbody>
</table>

Skills Scale from pretest to posttest. For the subjects without disabilities in the experimental (facilitated) group, one subject had increased scores and three had slightly decreased scores on the SSRS Social Skills Scale from pretest to posttest. All four subjects without disabilities in the control group (nonfacilitated), had slightly decreased scores on the SSRS Social Skills Scale from pretest to posttest.

Individual performance analyses of the subjects with disabilities in the experimental (facilitated) group indicated one subject had increased scores, one subject’s scores remained the same and two of the subjects had slightly decreased scores on the SSRS Problem Behaviors Scale from pretest to posttest. One subject with disabilities in the control group (nonfacilitated) had increased scores and the other three subject’s scores
Table 19

**Independent Samples t-test on Social Skills Rating System- Problem Behaviors Scale Postest**

<table>
<thead>
<tr>
<th>SSRS</th>
<th>Difference</th>
<th>SE</th>
<th>t</th>
<th>DF</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Behaviors</td>
<td>9.88</td>
<td>4.54</td>
<td>2.174</td>
<td>8.029</td>
<td>.061</td>
</tr>
</tbody>
</table>

remained the same on the SSRS Problem Behaviors Scale from pretest to posttest. One subject without disabilities in the experimental (facilitated) group had increased scores, one subject’s scores remained the same, and two of the subjects had slightly decreased scores on the SSRS Problem Behaviors Scale from pretest to posttest. One subject without disabilities in the control group (nonfacilitated) had increased scores, one subject’s scores remained the same and two subjects had slightly decreased scores on the SSRS Problem Behaviors Scale from pretest to posttest.

These findings are discussed in Chapter 5. Conclusions and recommendations for further research follow the discussion.
CHAPTER 5

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was to investigate the efficacy of using adult facilitated play groups to increase social interaction behaviors between young children with and without disabilities. Answers obtained for three research questions are summarized and discussed below, followed by a set of conclusions and recommendations for future research.

Discussion

A serendipitous finding in this study was the high rate of absenteeism of the subjects in both play groups. Absenteeism had not been discussed in any of the studies reviewed, but was a factor in this study that negatively affected the data analyses and, most likely, the results. In Appendix A, Table A1 (p.122) shows the percentage of attendance by group and disability status. Over the course of the 16 sessions, all subjects took part in 72.3% of the sessions. Table A2 (p.123) also found in Appendix A depicts the average number of sessions missed by subjects
by group and disability status. Subjects in the experimental (facilitated) group missed an average of 3.9 of the 16 sessions. Subjects in the control (nonfacilitated) group missed an average five of the 16 sessions. The average number of missed sessions across both groups was 4.4 of the 16 sessions. Although the absenteeism negatively affected the data analyses, it is not possible to determine the effect of the absenteeism on the outcome of the experiment. Researchers are alerted to the fact that absenteeism poses serious implications, especially in studies with a small number of subjects.

Each of the three research questions that guided this study is presented below and followed by a summary of the findings and discussion.

Research Question #1
1. Does adult facilitation change the social interactive behaviors demonstrated by children with and without disabilities who participate in the play groups?

The answer to research question #1 is two of the fifteen social interactive behavior categories indicated a statistically significant difference. Specifically, the number of times the peer(s) initiated interaction toward the target subject actually decreased from the pre-
observation score to the post-observation score. In addition, the number of times the target subject initiated interaction toward peer(s) also decreased from the pre-observation score to the post-observation score. The adult facilitator's involvement may have caused the actual initiation of interactions between the peer(s) and the target subjects to decrease because of the type of support and guidance that was being provided in the play group setting. No effect of adult facilitation was found for thirteen of the fifteen social interactive behaviors demonstrated by the subjects who participated in the facilitated play group. Wolfberg (1999) stated that it has been her experience when she trains adults to assume the role of being the facilitator of the Integrated Play Groups that, "some of my trainees are unable to take other than a directive stance with the children in play situations" (p. 156). She points out that this causes the relationship between the adult and the child to be hierarchical in nature, which inhibits the children from being, allowed to explore. Several factors, and their interaction, may have contributed to these results. For instance, the length of the intervention may have been too short, especially in light of the frequency of absenteeism in the Experimental Group. The role the adult facilitator assumed even after
being trained may have been too intrusive or directive in the play group setting. She may have interfered with the initiation of peer interactions with the subjects participating in the facilitated play group. Finally, the types of peer social play interactions that were expected for this age group of children may have been inappropriate. Wolfberg (1999) described how the children who participated in the original study of Integrated Play Groups changed over time in regard to how they socially related to their peers. When the subjects were between the ages of five to nine, she described them as, "being alone in the company of children and then beginning to notice other children" (p. 150). When they were between the ages nine to eleven and involved specifically in the Integrated Play Groups intervention, she described their social relations with peers as, "subtle attempts to participate and moving into socially coordinated play" (p. 150). Clearly, she describes how the children followed a similar progression in terms of establishing varying degrees of social coordination in play and social relations with peers. The subjects who participated in this study were much younger than the original participants involved in the Integrated Play Groups intervention. The subjects in this study may not have been developmentally ready to socially interact
and play with their peers in the same manner that was expected of their older peers.

Research Question #2

Do the social behavioral ratings of children with and without disabilities in facilitated and nonfacilitated play groups change over time?

The findings for research question #2 indicated no statistically significant difference between the facilitated and nonfacilitated play groups on the SSRS Social Skills and Problem Behaviors Posttest. While the test on disability status (subjects with disabilities and subjects without disabilities) closely approached the .05 level of significance, the test for interaction between group and disability status was not statistically significant. Because the findings did not appear to show any change in the social behavioral ratings of the children with and without disabilities in the facilitated and nonfacilitated play groups over time, a follow-up test was conducted looking at the Problem Behaviors and Social Skills Posttests separately, rather than as a pair. The only significant relationship appeared to be between disability status and the score on the Social Skills Posttest. It did not matter what group the subjects were
assigned to but disability status did show effect on the subjects' Social Skills Posttest scores.

The intervention time in this study may not have been adequate for subjects to demonstrate a measurable or teacher perceived increase in their social development. However, the interval of intervention chosen was reflective of the literature reviewed. For example, Guralnick and Groom (1987 and 1998b) selected eight children per play groups and met two hours per day, five days a week for four weeks (20 sessions). In a study by Guralnick, Connor, Hammond, Gottman, and Kinnish (1995), the children in the play groups met two and one half hours per day, five days a week (ten sessions). In Hanline's (1993) study, six children attending an inclusive preschool were studied for four weeks during the summer program. Blackmon and Dembo (1984) investigated children during a six week period.

The teachers completing the rating forms in the study were required to report on the general sociability of subjects as they saw them in the regular classrooms prior to and at the conclusion of the study. The teachers rated many of the subjects with and without disabilities lower on several items on the posttest measure than they had originally rated the same subjects during the pretest. During the second round, the ratings of the teachers may
have been more severe or the level of expectation they had for the subjects was higher because they knew the subjects were under study. The duration of the intervention may not have been enough time for the subjects' behavior to change and/or not enough time for the teachers or assessments to ascertain changes in the subjects.

The SSRS (Gresham & Elliott, 1990) may not have been a sensitive enough measure to detect changes in the social and problem behavior ratings of the subjects. Conversely, the authors of the SSRS reported a test-retest reliability of .85 for the Social Skills Scale, and .84 for the Problem Behaviors Scale at the Elementary Level for the teacher ratings when the same students were measured four weeks after their original standardization ratings, which was the time period used, in this study. The researcher in this study was unable to obtain the test-retest reliability for the Social Skills and the Problem Behaviors Scale at the Preschool Level for the teacher ratings form from the publishers of the SSRS, the American Guidance System (AGS). The representatives of the AGS reported they are aware that the reliability quotients have been completed and stated they have submitted the request for the test-retest reliability for the preschool level teacher forms to the authors of the SSRS. To date, the company has not provided
the information requested. S. N. Elliott, one of the authors of the SSRS (personal communication, September 8, 1999) reported that in numerous grant projects, the preschool version of the SSRS has been used and the test-retest reliability was found to be very stable between .75 and .82 after the same students were measured four to six weeks after the screening phases.

**Research Question #3**

Do the problem behavior ratings of children with and without disabilities in facilitated and nonfacilitated play groups change over time?

The mean pretest score for Problem Behaviors Scale was higher for all subjects at the beginning of the study than the mean posttest score for the Problem Behaviors Scale for all subjects at the end of the study. This drop in scores showed a statistically significant effect regardless of disability status or group assignment. Follow-up tests showed that the Problem Behaviors Scale had no significant effect by group (facilitated and nonfacilitated) or by disability status (subjects with and without disabilities). The test for interaction between group and disability status also was not statistically significant.
Regardless of disability status or group assignment, all of the subjects' problem behaviors decreased as a result of their involvement in the study. This is an important finding and needs further investigation because it suggests that simply placing young children in a consistent structured play group setting over time may be sufficient for children to decrease their problem behaviors.

Conclusions

Some children with disabilities in this study had equal or higher social scores than peers without disabilities, which seems not to have been reported in any of the studies reviewed but is necessary to determine before measurement or comparison. A decrease in problem behaviors of the subjects regardless of disability or group assignment occurred during participation in the study.

Recommendations for Future Research

Reflections on the procedures and results of this study lead to the following recommendations for continuing research on the topic of facilitated play groups to enhance the social development of young children in early childhood settings.
1. Adult facilitated integrated play groups have been studied extensively with elementary school-aged subjects. Further research is needed to determine if this type of intervention is appropriate for preschool-aged children.

2. Researchers need to determine if incentives for full participation will prevent significant absenteeism during the period of the research study.

3. Researchers need to determine what level of adult facilitation is appropriate for establishing a context in which young children can be supported effectively to increase their social skills while decreasing problem behaviors in a play group setting.

4. Researchers need to examine the types of roles that children with the higher social skills and fewer problem behaviors can assume or be taught to use when they enter a play group with less skilled children of various ages.

5. Researchers need to determine if problem behaviors of children will decrease or increase in play groups with and without adult monitoring and direct facilitation.

6. Further research is needed to determine if the play or social skills demonstrated by young children in a play group setting could produce results that can be generalized to other less structured play environments and what interval of intervention might produce positive results.
APPENDIX A

Table A1

Percentage of Sessions Attended by Subjects

<table>
<thead>
<tr>
<th>Play Group</th>
<th>Disability Status</th>
<th>Total Subjects</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitated</td>
<td>Disability</td>
<td>4</td>
<td>67.2%</td>
</tr>
<tr>
<td></td>
<td>No Disability</td>
<td>4</td>
<td>84.4%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>8</td>
<td>75.8%</td>
</tr>
<tr>
<td>Nonfacilitated</td>
<td>Disability</td>
<td>4</td>
<td>78.2%</td>
</tr>
<tr>
<td></td>
<td>No Disability</td>
<td>4</td>
<td>59.4%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>8</td>
<td>68.8%</td>
</tr>
<tr>
<td>Both Groups</td>
<td>Disability</td>
<td>8</td>
<td>72.7%</td>
</tr>
<tr>
<td></td>
<td>No Disability</td>
<td>8</td>
<td>71.9%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>16</td>
<td>72.3%</td>
</tr>
</tbody>
</table>

Note. Attendance is based on total of 16 sessions per group.
Table A2

Average Number of Sessions Missed by Group and Disability

<table>
<thead>
<tr>
<th>Play Group</th>
<th>Disability Status</th>
<th>Total Subjects</th>
<th>Sessions Missed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitated</td>
<td>Disability</td>
<td>4</td>
<td>5.25</td>
</tr>
<tr>
<td></td>
<td>No Disability</td>
<td>4</td>
<td>2.50</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>8</td>
<td>3.88</td>
</tr>
<tr>
<td>Nonfacilitated</td>
<td>Disability</td>
<td>4</td>
<td>3.50</td>
</tr>
<tr>
<td></td>
<td>No Disability</td>
<td>4</td>
<td>6.50</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>8</td>
<td>5.00</td>
</tr>
<tr>
<td>Both Groups</td>
<td>Disability</td>
<td>8</td>
<td>4.38</td>
</tr>
<tr>
<td></td>
<td>No Disability</td>
<td>8</td>
<td>4.50</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>16</td>
<td>4.44</td>
</tr>
</tbody>
</table>

Note. Attendance is based on a total of 16 sessions per group.
BIBLIOGRAPHY


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