

Promoting Social Interaction Between Preschoolers  
With and Without Developmental Disabilities  
Using a Simplified Buddy Skills Training Program

by

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A Thesis

Submitted to the Faculty of Graduate Studies

in partial fulfillment of the requirements

for the degree of

Master of Arts

Department of Psychology

University of Manitoba

Winnipeg, Manitoba

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## Abstract

Interventions in which typically developing preschoolers are used as change agents to promote social interactions, such as the Buddy Skills program (English et al., 1997), have proven to be effective for increasing social interactions between children with and without developmental disabilities. But teachers rate components of these interventions low on feasibility and acceptability for use in their programs (Odom, McConnell, & Chandler, 1993). This study investigated whether a simplified Buddy Skills training procedure, the Buddy Game, was effective for increasing social interactions between preschoolers with developmental disabilities and their typically developing classmates. Daycare staff also evaluated the acceptability and feasibility of implementing the Buddy Game in a daycare setting.

Participants were eight 3- to 5- year-old preschool children, two of these children were developmentally disabled. The children were divided into two groups for buddy game sessions. Each group was assigned a daycare worker who taught the children to stay, play, and talk with each other. At the beginning of each trial, the daycare worker discussed what being a good buddy meant, seated the children at the table(s) to structure the dyads, provided play material, and gave an initial prompt. The results indicated that social interactions between the children with disabilities and their typically developing peers increased during training. However, social interactions returned to baseline levels for most children when adult prompts and praise were discontinued. The daycare staff rated the Buddy Game as acceptable under most conditions and sometimes feasible for use in the daycare.

## ACKNOWLEDGMENTS

I would like to express my sincere thanks to my advisor, Dr. John Whiteley, for his continuing guidance and assistance throughout this study. I'm grateful to my departmental committee member, Dr. Rayleen De Luca, and my external committee member, Dr. Joan Durrant for their assistance and insightful comments.

I am greatly indebted to the staff of River Road Children's Centre for their assistance and cooperation throughout the data collection phase of this study. I am especially grateful to the participants and their parents for their interest and cooperation.

I would also like to thank Wendy Welsh and Sabrina Driedger for their assistance during the data collection phase of the study.

Finally, I wish to thank my family and friends for their continuous support and encouragement.

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## Promoting Social Interaction Between Preschoolers With and Without Developmental Disabilities Using a Simplified Buddy Skills Training Program

### Introduction and Review of the Literature

Over the past 25 years, the inclusion of special needs children has been an important goal of early childhood special education. Integration in the preschool years is recommended for at least three reasons (Buysse & Bailey, 1993). Firstly, preschool children have not yet formed impressions or biases about groups of people, so there is a decreased probability of teasing and rejection. Secondly, early interactions with children with disabilities should increase the likelihood of later acceptance of disabled individuals. Thirdly, early placement should prepare the child with disabilities to succeed in typical environments. However, many researchers have shown that simply placing preschool children with disabilities in an integrated environment does not result in high quality social interactions (e.g., Devoney, Guralnick, & Rubin, 1974; Kohl & Beckman, 1984). Interventions that promote social interaction between children with disabilities and typically developing children need to be implemented to achieve this outcome (Goldstein & Kaczmarek, 1992). Most interventions for promoting social interactions reported in the research literature, however, are very difficult for daycare staff to use because they require intensive training of individual children. Interventions must be developed that are appropriate for daycare settings. In this study, a social skills intervention was implemented by daycare staff, and its effectiveness was evaluated.

A major goal of preschool inclusion is to promote the social development of

young children and their ability to form friendships (Storey & Danko, 1994). Social skills are vital for the development of a socially competent child; however, many children with and without disabilities fail to develop these social skills (Elliot & Gresham, 1993; Odom, McConnell, & McEvoy, 1992). Without active intervention, social skill deficits tend to become more debilitating as preschool children grow older (Everhart, Dignan, & Brown, 1991; Hendrickson, Strain, Tremblay, & Shores, 1982; Strain, Shores, & Timm, 1977; Strain & Timm, 1974); consequently, teaching social skills to preschool children has been recommended to avoid this outcome (e.g., Leblanc & Matson, 1995; Hundert & Houghton, 1992; Matson, Fee, Coe, & Smith, 1991).

Research shows that compared to segregated environments, inclusive settings are more socially stimulating and more responsive to children with disabilities (Guralnick & Groom, 1988). Typically developing children in inclusive settings appear to adapt to the cognitive and linguistic characteristics of children with disabilities. For example, typically developing children make appropriate communicative adjustments in complexity, functions, and discourse features of language (Guralnick & Paul-Brown, 1986). As well, inclusive settings place higher demands on children with disabilities with regards to social and play behaviors, provide many observational learning opportunities (Goldstein & Kaczmarek, 1992), and more opportunities to generalize skills (Templeman, Fredericks, & Udell, 1989). Children with disabilities prefer to interact with typically developing children, and children with disabilities generally engage in higher levels of play when interacting with their typically developing peers than when interacting with other children with disabilities (Guralnick & Groom, 1987).

Socially delayed children engage in social interactions more often in integrated

settings than in non-integrated settings (Guralnick, 1990; Guralnick & Groom, 1988). They also exhibit more appropriate social interactions and more initiations in social situations (Esposito & Peach, 1983; Ground & Yeager, 1987), more complex language and communication (Guralnick, 1978), and less inappropriate play (Guralnick, 1981). Preschoolers with disabilities in inclusive programs are also more likely to have typically developing friends (Green & Stoneman, 1989).

Typically developing preschoolers benefit from inclusive settings as well as their disabled classmates (Strain, 1990). Typically developing peers show increased understanding of, sensitivity to, and tolerance for individual differences (Ispe & Matz, 1978; Radonovich & Houck, 1990). Typically developing children exhibit favorable attitudes toward children with severe disabilities as a result of direct contact with these children (Esposito & Peach, 1983). Some research supports the conclusion that typically developing children in inclusive settings hold more positive attitudes toward disabled persons than do their age-mates in preschool programs for typically developing children. In one study (Diamond & Carpenter, 2000), preschool children in inclusive settings gave higher social acceptance ratings to children with and without disabilities, and had more ideas about ways to help their classmates, than age-mates in preschool programs for typically developing children only.

It is widely agreed that an inclusive preschool setting is best for young developmentally delayed children, however, placement alone doesn't guarantee that the needs of these children will be met. Gresham's (1982) study found that placement alone did not result in increased social acceptance. Leonoff and Craig (1989), as cited in Demchak and Drinkwater (1992), found that for fully mainstreamed children there were

increases in acceptance and liking of peers with disabilities and increased social involvement over time. However, this study found that these results did not extend to partially mainstreamed children. Meaningful inclusion includes physical, functional, and societal integration. For full integration to occur, preschoolers with disabilities should be using the same facilities as their peers, and should be involved with their typically developing peers in a variety of activities, such as free play, center activities, and large group activities (Demchak & Drinkwater, 1992).

Inclusion of preschool children with disabilities is a complex, active process involving more than simply putting children in the same program (Odom & McEvoy, 1988, 1990). Even though various studies show that peers can be functional and influential resources, other studies have suggested that placement in inclusive preschool settings does not always enhance the skills of preschoolers with disabilities (Odom & McEvoy, 1988; Sontag, 1997). When there is no intervention to facilitate social integration, typically developing children may behave negatively toward children with disabilities and exclude their classmates with disabilities from activities (Gresham, 1982; Guralnick & Groom, 1988; Ray, 1985; Taylor, Asher, & Williams, 1987). It has been shown repeatedly that integrated disabled students have lower social status (Gresham, 1981; MacMillan & Morrison, 1984), and the most replicated finding in the preschool literature on integration of children with disabilities is that children with disabilities in inclusive classrooms engage in social interaction with peers less often than their typically developing peers (e.g., Hill & Whiteley, 1985; Guralnick & Paul-Brown, 1986; Kopp, Baker, & Brown, 1992). We cannot assume that typically developing children will serve as functional and influential resources for their peers with disabilities; therefore,

specialized interventions are needed to bring forth positive social outcomes (Lamorey & Bricker, 1993).

The most frequently researched approach for increasing young children's social interactions has been peer-mediated intervention (Brown & Odom, 1995). There are several reasons that researchers employ peers as "change agents" in social interaction interventions. First, researchers have found that adult interventions, as opposed to peer interventions, result in briefer social interactions between typically developing and disabled classmates (Strain, Kerr, & Raglund, 1981). Second, studies using adult interventions have shown that badly timed teacher prompts can interfere with children's ongoing play and social interactions (Strain & Fox, 1981). Third, it has been shown that peer-mediated interventions produce better generalization and maintenance of social interactions as opposed to adult-mediated interventions (Odom, McConnell, & McEvoy, 1992; Strain & Fox, 1981; Strain et al., 1981). Lastly, studies have shown that many peers enjoy participating in social interaction interventions (Strain et al., 1981).

Peer-initiation training is one of the most well researched and widely used peer-mediated strategies (Odom & Strain, 1986). Peer-initiation training involves teaching typically developing children to elicit and maintain social and communicative behaviors from a child with disabilities (Odom, McConnell, & McEvoy, 1992; Odom & Strain, 1984). Typically developing peers are taught behaviors through social skills training that they can use to facilitate social behavior and interactions, such as, establishing eye contact, suggesting play activities, initiating conversation, offering or asking for help, describing ongoing social interactions, expanding the content of the target student's speech, and demonstrating affection (Goldstein & Wickstrom, 1986; Goldstein & Ferrell,

1987; Storey, Smith, & Strain, 1993). Peer initiation interventions have included the use of reinforcers, instructions, prompts, models, rehearsals, feedback, discussions, or different combinations of these procedures for improving preschool children's peer interactions (Brown & Odom, 1995; Brown, Odom, & Conroy, 2001). Research has shown that training typically developing preschool children to model, prompt, and reinforce social responses from developmentally delayed or disabled classmates can significantly increase the frequency of interactions of children with disabilities (Goldstein, English, Shafer, & Kaczmarek, 1997; Goldstein & Wickstrom, 1986; Odom, Hoyson, Jamieson, & Strain, 1985; Tremblay, Strain, Hendrickson, & Shores, 1981).

A peer-initiation social skills intervention, the Buddy Skills Training Program, was developed and assessed by English, Goldstein, Shafer, & Kaczmarek (1997) and Goldstein et al. (1997). The Goldstein et al. (1997) study took place over two successive years, with two cohorts of children. In the first year, there were 6 typically developing children and 12 developmentally disabled children in this classroom. The children with disabilities had delayed language and motor development, and delayed cognitive and social skills. Included in the intervention during the first year were 8 girls, 4 with disabilities and 4 typically developing, with ages ranging from 42 months to 61 months. In the second year, 4 girls and 4 boys with ages ranging from 40 months to 61 months participated in the intervention. The English et al. (1997) study included 5 typically developing children and 10 children with developmental disabilities. Both studies implemented the Buddy Skills intervention in three settings. Goldstein et al. (1997) used this peer intervention during a 30- to 45-minute free play time, a 15-minute snack time, and a 45-minute structured activity time. English et al. (1997) conducted the

intervention during a 60-minute free play time, a 15-minute snack time, and a 30-minute large-group activity held either in a gymnasium or an outdoor playground.

Goldstein et al. (1997) paired the children in buddy dyads based on play preferences and sociometric status. They also selected the 4 peers for training in the second year of the study based on teacher judgments of maturity and empathy, and children were matched with the sex of their partner. English et al. (1997) trained all five typically developing children participating in the program. The rationale behind Goldstein et al.'s (1997) selection procedures was that the most socially competent peers were the most likely to be best at applying the social skills strategies. Nietupski, Stainback, Gleissner, Stainback, and Hamre-Nietupski (1982) found that preschool children who were rated by their teachers as being socially outgoing were more successful than children who were rated as withdrawn in obtaining responses from children with developmental disabilities. Although the Nietupski et al. (1982) study did not include a peer-initiation intervention, it provides some support for the use of teacher ratings of social skills as a selection criterion.

To determine play preferences, Goldstein et al. (1997) showed the typically developing children photographs of classroom activities, and asked them to say whether or not they would like to play each of the activities with each of their classmates with disabilities. The typically developing children who gave a high number of positive responses concerning a classmate with disabilities were considered better partners for the child. English et al. (1997) did not use the play preference procedure.

Sociometric status of the children with disabilities was also used by Goldstein et al. (1997) as a basis for arranging buddy dyads. The sociometric instrument was called

the “Friendship Train”. After the rater’s picture was placed in the engineer’s compartment, he or she was asked to choose three friends to go for the first ride on the “Friendship Train”. The pictures of the classmates chosen were then put aside, and the rater was asked to pick another three friends for the next train ride. This process continued until all of the pictures had been chosen. Researchers used these ratings and the play preference data to find matches between a typically developing child and a classmate with disabilities. Matches were considered appropriate if the typically developing peer had indicated some interest in playing with a peer with disabilities, and had given the disabled peer an average rating, compared to the rest of the class, on the sociometric measure.

Both Goldstein et al. (1997) and English et al. (1997) conducted “Friendship Train” sociometric assessments before and after the intervention, in order to monitor changes in social acceptance. Goldstein and colleagues (1997) found that the sociometric status of 6 of the 8 children with disabilities increased, indicating higher social acceptability by their typically developing peers. The sociometric status remained the same for the other 2 children. English and colleagues (1997) found little or no change in sociometric status for the target children with disabilities.

Both English et al. (1997) and Goldstein et al. (1997) conducted a social comparison assessment before training. They collected three 10-minute samples of social interactions for each typically developing child, one sample in each of the three settings. Each typically developing child who would be participating in the training was observed interacting with his or her best friend. The mean number of interactions per 10-minute sample was calculated for each child. These data were later compared to the

target childrens' rates of interactions after training.

In both studies, typically developing children selected for training were given sensitivity training and strategy training. In the sensitivity training component, the children were shown videotaped segments of attention-getting and requesting behaviors that their classmates with disabilities might use as attempts to communicate. During two 20-minute training sessions, the peers were shown eight 60- to 90-second episodes. In each episode, the children with disabilities were shown using a different unconventional type of communicative behavior, such as gesturing and other nonverbal types of communication. After each episode the researcher discussed what they had just seen and asked the children what they thought the child with disabilities on the tape was trying to do or say. This procedure was designed to help the typically developing peers focus on, recognize, and interpret the intended meaning of subtle or ambiguous communicative acts. The Goldstein et al. (1997) study added an introductory session focusing on the meaning of the word "buddy". This was to ensure that the typically developing children understood the concept of being a friend, a helper, and someone to play with.

Goldstein et al. (1997) included a baseline condition with their second year cohort to measure the effects of pairing trained peers with classmates with disabilities following sensitivity training. They found that sensitivity training combined with reinforcing the trained peers for maintaining proximity with their target child did not increase the number of social interactions between the typically developing peers and their classmates with disabilities.

Strategy training, in both the Goldstein et al. (1997) and English et al. (1997) studies, consisted of three direct instruction lessons followed by two to three practice

sessions. Children with disabilities were not included in these training sessions. The typically developing children were taught to stay close to their buddy, play with their buddy, and talk to their buddy. The stay, play, and talk strategies made up a sequential behavioral chain that was taught to the typically developing children by the researchers in small groups. The size of these groups was not specified. They were first taught to maintain proximity with an assigned buddy when verbally reminded. They were then taught to say the buddy's name, establish mutual attention, and suggest playing together or talking about the ongoing activity. Thirdly, peers were taught to maintain proximity and to continue to play and talk to their buddy. The verbal prompt was condensed to "stay with your friend, play with your friend, and talk to your friend" for simplicity, and later simplified to "stay- play-talk". These elements were taught through discussion, adult modeling, guided practice, and independent practice with feedback. The criterion for mastery was when a child could demonstrate all three buddy steps without prompts twice consecutively.

Observations of interactions during baseline sessions focused on one child at a time. During free play the children were free to move around the classroom. The children were seated so that each buddy dyad was seated together for snack time and the small-group activity. In both studies the children were observed for 4 minutes of free play, 3 minutes of snack time, and 3 minutes of a structured group activity. The everyday classroom management rules remained the same. Children were not provided with instructions about how or with whom to interact, and teachers and assistants were not given any specific instructions.

Following baseline sessions, during which sensitivity and strategy training were

also concurrently administered, the strategy-use phase began. During this phase, trained peers were prompted to use the stay-play-talk strategies with a child with disabilities (target child) in three settings. Trained peers were also asked to forecast what they would talk about with their assigned buddy prior to the stay-play-talk prompt, and they were then reinforced for talking four or more times during each activity. Sainato, Goldstein, and Strain (1992) found that peers who were taught forecasting, which is a type of self-monitoring intervention, increased their use of social skills strategies with very little prompting.

In the Goldstein et al. (1997) study, the trained peers remained with the same buddy throughout the strategy-use phase, whereas trained peers were assigned a different buddy about every third day in the English et al. (1997) study. English et al. (1997) prompted the trained peers with the phrase “stay, play, and talk”. Goldstein et al. used the same verbal prompt with their second-year cohort. However, the peers in the first-year cohort were prompted with a buddy flag, which the children had made during sensitivity training, and it was presented to them after 0, 1, or 2 min of data collection. These trained peers could also receive two additional prompts from a research team member, if they were having difficulty initiating or maintaining interactions with the target child.

After every activity the trained peers in the English et al. (1997) study received verbal praise from one of the researchers. As well, if the trained peer had met his or her goal for total number of interactions, which was the same number of interactions found in the social comparison assessment, then the teacher reinforced the child with praise and stickers. If this goal was not met, the teacher told the trained peer that there would be

another opportunity to earn stickers another day, and 1 minute of refresher training was provided on the morning of the trained peer's next buddy assignment. For the first-year cohort in the Goldstein et al. (1997) study, both verbal praise and a token system were administered by the researchers. Children could earn a penny for their interactions in each of the three settings, and then turn them in for a prize at the end of the day. The trained peers in the second-year cohort received verbal praise from the researchers and were given stickers at the end of the day. The use of stickers as tangible reinforcers was faded by the end of the strategy-use condition. Both studies found that the trained peers and target children produced significantly more communicative acts during the strategy-use phase than the baseline phase.

The English et al. (1997) study also incorporated dyadic training sessions for the buddy pairs which took place in the classroom during the three activities (free play, snack time, and large group activity). This training consisted of two to four sessions depending on the needs of each target child. The children with disabilities were trained with a modified version of the stay-play-talk strategies, which was to stay and play with their buddy. During this training, trained peers were informed that target children were learning and practicing the buddy steps to use with them. Once the dyadic strategy-use training was finished, each buddy dyad was prompted to use their buddy strategies during the three activities. The buddy assignments were again rotated in this condition. After each of the three activities, the dyads were reinforced with praise by a member of the research team, and then with praise and stickers at the end of the day by a teacher, if they had used their strategies effectively in all activities. The distribution of stickers as reinforcers was faded out by the end of this condition. The teachers and aides were told

to praise both the trained peer and the target child when they saw the dyad using the buddy steps correctly. The criteria for reinforcing the trained peers were the same as in the strategy-use condition. The goal of the dyadic training was to teach target children to “stay” with their peer buddies, so the criterion for target children was a 20% increase in the time spent in proximity to their buddy. Target children met the training criteria when they maintained proximity and interacted with their buddy for four consecutive minutes in each of the three activities in one day.

English et al. (1997) found that this supplemental dyadic training somewhat enhanced target children’s responsiveness to their social partners’ communicative acts, indicating an increase in reciprocal communication. However, dyadic training did not increase the overall number of social interactions between the typically developing children and the children with disabilities. There was no rationale given for not including the element “talk” in this dyadic strategy-use training condition. It is not mentioned whether or not the children with disabilities had a difficult time talking. If the target children were able to speak, including a “talk” element for the children with disabilities may have further increased their responsiveness to their typically developing buddies.

English et al. (1997) rotated assigned peers, whereas Goldstein et al. (1997) kept the same dyads together throughout strategy-use training. English et al. (1997) did not find the increase in sociometric ratings for the target children that Goldstein et al. (1997) found in their study. English et al. (1997) postulate that rotating the buddy dyads may have led to increased social interaction, but failed to allow the children to form friendships that would lead to an increase in sociometric ratings for the target children.

Generalization across different target children was assessed by Goldstein et al.

(1997). They conducted a generalization phase in which the same conditions and prompting procedures existed as in the strategy-use sessions, but the trained peers were reassigned to different target children. They found that the trained peers continued using the stay, play, and talk strategies with their new buddies. The interaction rates were just as high, and higher in some instances, as during the strategy-use sessions.

Both the English et al. (1997) and Goldstein et al. (1997) studies utilized a social validation procedure where early childhood educators, parents, and others watched videotaped social interactions from baseline and intervention conditions, and rated the quality and quantity of the social interactions. Those who viewed pre-training and post-training videotapes in both studies reported that the quality and quantity of the social interactions between the typically developing children and the children with disabilities were improved following Buddy Skills training.

A problem in the area of preschool social skills interventions is that teachers are not implementing methods, such as those used by English et al. (1997), for promoting young children's social interactions. Odom, McConnell, and McEvoy (1992) found that teachers working in 22 preschools rarely used intervention tactics, such as prompting and praising, to improve social interaction among their typically developing and disabled students. Odom, McConnell, and Chandler (1993) found similar results in a national survey of 131 teachers. This national survey assessed teachers' judgments of acceptability and feasibility of child specific, peer-mediated, and environmental arrangement intervention strategies. It was shown that teachers are more likely to utilize strategies involving general classroom activities and arrangements, such as environmental arrangement, than individual interventions, such as teacher prompting and

praising of social interactions, to facilitate children's social interactions. Aspects of these intervention strategies, such as testing mastery of social skills and use of tangible reinforcers, were rated low on acceptability and feasibility by teachers. Showing videotaped examples of social skills to children was rated as acceptable but not feasible. Odom et al. (1993) found that time is a barrier to implementing peer-mediated interventions. They concluded that "The challenge to the field will be to use this information to design interventions or curricula that teachers will implement in programs for young children with disabilities" (p. 234).

The aim of this study was to use components of the Buddy Skills training procedure developed by Goldstein et al. (1997) and English et al. (1997) in an activity called the Buddy Game that daycare staff could use as a social skills intervention. In these previous studies, the researchers rather than the teachers carried out Buddy Skills training and administered most of the prompts and reinforcers during strategy-use sessions. For daycare workers to implement an intervention, they must be able to train, prompt, and reinforce the children without the assistance of researchers. Consequently in the present study, children were taught by daycare staff in groups consisting of one child with a developmental disability and three without disabilities.

The Buddy Game included children with and without disabilities throughout social skills training. Not only did this allow the disabled children to participate to the best of their ability, but it also saved the daycare worker's time, as children did not have to be segregated during training sessions. In the training sessions, they were taught to maintain proximity, play with their buddies, and talk to their buddies when verbally prompted. Tangible

reinforcers were not given as Odom et al. (1993) found that teachers rated tangible reinforcers low on both acceptability and feasibility. Therefore, praise was the only type of reinforcer used in this intervention.

Sensitivity training sessions were not included in this intervention because Odom, McConnell, and Chandler (1993) found that showing videotaped examples of social interactions was rated low on feasibility by teachers, and therefore would likely not be feasible for daycare workers. As well, Goldstein et al. (1997) found that sensitivity training alone had no effect on the number of social interactions. Discussion of nonverbal communication was included in the training sessions.

Selection procedures for choosing children were minimized. It is not practical in a daycare setting to select children using sociometric procedures, such as the friendship train, because these require time-consuming testing of individual children. Also, there is little evidence to show that using sociometric ratings to select typically developing children for training actually allows the researcher or teacher to select the most socially competent buddy. As well, it is difficult to segregate children for programmatic reasons because of limited numbers of staff. Moreover, in an integrated setting, it is ideal to have all the children participate in each setting and activity. Furthermore, nondisabled children who do not have high levels of social competence may benefit from a social skills intervention as much as their classmates with disabilities. Consequently, age of the children (3 to 5 years) was the only selection criteria used in the present study. However, teacher ratings of typically developing participants on several dimensions were obtained prior to training to explore their validity as predictors of training effects.

As the aim of the study was to make the intervention feasible for daycare staff, it

was important to direct questions about positive and negative aspects of the program towards the daycare staff. Consequently, daycare staff completed a questionnaire on the acceptability and feasibility of the Buddy Game to provide a measure of social validity.

## Method

### *Participants*

The participants in this study attended a daycare program for approximately 40 preschool children aged 2 to 5 years. At the commencement of the study, there were 18 children in the 3- to 5-year age-range, 15 typically developing and 3 with developmental disabilities. Consent forms (see Appendix A) were sent to their parents and permission was obtained to include 5 boys and 1 girl without disabilities and 2 boys with disabilities in the study. At the beginning of the study, ages of the five typically developing male children were 4 years, 2 months (T1), 4 years, 4 months (T2), 3 years, 6 months (T3), 3 years, 7 months (T4), and 4 years, 3 months (T5), and the age of the typically developing female child was 4 years, 8 months (T6).

One of the developmentally disabled children (D1) whose age was 3 years, 6 months had early childhood autism. The expressive vocabulary of this child was estimated to be 150 words. The second developmentally disabled child (D2), whose age was 4 years 11 months, had brain damage. He did not have expressive language and communicated through pointing and vocalizing.

### *Teacher Rating Scale*

Prior to baseline sessions, the two daycare staff who conducted the training sessions independently rated each typically developing participant on each of the following characteristics (cf. Ronning & Nabuzoka, 1993) using the Teacher Rating

Scale (see Appendix B):

1. Regular school attendance.
2. Frequent interaction with children without disabilities in an appropriate manner.
3. Frequent interaction with children with disabilities in an appropriate manner.
4. Compliance with teacher requests and instruction.
5. Ability to concentrate on a task.

*Observation Code*

A checklist procedure was used to record child and adult responses. The coding focused on the three buddy skills strategies; namely, staying close (proximity), playing, and talking (communicative initiations and responses). As well, the prompting and reinforcing behavior of the daycare staff was recorded. Observations were made for four or five consecutive minutes. Each 30-second observation interval was divided into a 20-second observation interval followed by a 10-second record interval. A microcassette recorder provided cues to observe and record for observers. Detailed instructions for this checklist are presented in Appendix C.

- Proximity was scored if the two children were within 1 meter of each other for at least half of the 20-second observation interval (cf. Rubin, 1984).

Four categories of play and non-play behavior were coded for each child using definitions adapted from Ivory and McCollum (1999) and Rubin (1984). Only one of these categories was coded per 20-second observation interval. In the event that more

than one type of behaviour was observed during an interval, cooperative play was coded over all other categories, then parallel, then solitary, and lastly onlooker.

- Cooperative play was scored when the two children play together, mutually using or exchanging materials.
- Parallel play was scored when the two children played with similar toys independently, not attempting to influence the play of the other child.
- Solitary play was scored when the two children played independently with toys that were different from those of the other.
- Onlooker behavior was scored when the child watched the activities of another child, but did not enter into the activity.

Communicative responses (“talking”) were coded as initiations or responses.

Initiations were verbal and nonverbal behaviors that began a social interaction; whereas, responses were verbal and nonverbal acknowledging behaviors that occurred following an initiation by the other child (Storey & Danko, 1994). Initiations and responses were both recorded if they occurred at least once in a 20-second observation interval. Only one of each type of response was recorded per interval, however. The following definitions were adapted from Kohler & Strain (1995).

- A verbal/vocal initiation was scored when a child initiated a communication verbally or vocally to another child, e.g., asking his/her buddy to play. An initiation was coded as negative if the child called names or verbalized in other inappropriate ways.
- A non-verbal initiation was scored when a child initiated a communication

with a non-verbal action, such as waving. These were coded as negative if the child hit or destroyed materials or acted in other inappropriate ways when initiating non-verbally.

- A verbal/vocal response was scored when a child responded to a communication from another child verbally or vocally; for example, accepting a toy verbally. A response was coded as negative if it was uncomplimentary, rejecting, or harmful.
- A non-verbal response was scored when a child responded to a communication from another child with a non-verbal action, e.g., accepting a toy or complying with a play suggestion non-verbally, such as nodding head “yes”. A negative response was coded when a child made uncomplimentary, rejecting, or harmful actions, such as pushing a child away.
- Adult prompts, instructional feedback, and positive reinforcement were also recorded separately for each interval. Only one instance of each of these was scored per interval (cf. Odom et al., 1992):
- Adult prompts were scored when there was a directive verbal response by an adult to a child.
- Adult instructional feedback was scored when an adult provided a child with information about how to correctly carry out a response following an incorrect response by the child; for example, “Remember to stay with your buddy”. Adult reinforcement was scored when there was a positive verbal or nonverbal response by an adult to a child following a response by the child.

*Procedure*

The children were observed during two types of situations; (a) regular daycare activities, and (b) training and test sessions. Observation sessions during regular daycare activities were carried out before training commenced (pretraining observation sessions), during training (concurrent observation sessions), and following training (posttraining observation sessions). During training and testing, observations were carried out during a pretraining probe test session, a pretraining test session, training instruction sessions, training practice sessions, and a posttraining test session. The schedule of sessions is shown in Table 1. The procedures for each of these types of sessions are described below.

Table 1

*Schedule of Sessions for Group 1 and Group 2*

Date	Group with D1	Group with D 2
Nov 20	Pretraining Observation 1	Pretraining Observation 1
Nov 21	Pretraining Observation 2	
Nov 22	Pretraining Observation 3	Pretraining Observation 2
Nov 25		Pretraining Observation 3
Nov 26		Pretraining Observation 4
Nov 27	Pretraining Observation 4	Pretraining Observation 5
Nov 29	Pretraining Observation 5	Pretraining Observation 6
Dec 2		Pretraining Observation 7
Dec 2		Pretest
Dec 4	Pretraining Observation 6	Pretraining Observation 8
Dec 4		Pretraining Probe
Dec 5	Pretest	
Dec 5	Pretraining Probe	
Dec 6	Training Instruction 1	Training Instruction 1
Dec 6	Concurrent Observation 1	Concurrent Observation 1
Dec 9	Training Instruction 2	Training Instruction 2
Dec 10	Training Practice 1	Training Practice 1
Dec 11	Training Practice 2	Training Practice 2
Dec 11	Concurrent Observation 2	Concurrent Observation 2
Dec 12	Posttraining Test 1	Posttraining Test 1
Dec 12	Concurrent Observation 3	Concurrent Observation 3
Dec 13	Posttraining Test 2	Posttraining Test 2
Dec 16	Training Practice 3	Training Practice 3
Dec 17	Training Practice 4	Training Practice 4
Jan 13	Daycare Practice 1	Daycare Practice 1
Jan 15	Daycare Practice 2	Daycare Practice 2
Jan 16	Daycare Practice 3	Daycare Practice 3
Jan 20	Posttraining Test 3	Posttraining Test 3
Jan 22	Posttraining Observation	Posttraining Observation

Pretraining, concurrent, and posttraining observation sessions. These sessions were carried out during daycare free-play periods. Children were usually engaged in

activities at tables. A special needs worker assisted each child with disabilities and two daycare staff supervised the other children. Observers sat about 2 meters from the target child with disabilities. A 5-minute time sample was started when one of the children with disabilities was in proximity (i.e., within 1 meter) to one or more typically developing children. No prompts were given to the children or daycare staff. An observation session consisted of four to seven 5-minute samples obtained during the same day. In most cases, these samples were obtained within a 60 minute period.

*Training and test sessions.* The participants were divided into two groups for training and test sessions, each group consisted of one child with disabilities and three typically developing children. The children remained in the same groups throughout the study. One daycare staff member was assigned to each group. Group 1 consisted of D1, T2, T3, and T5; whereas, Group 2 consisted of D2, T1, T4, and T6.

With the exception of the pretraining probe test session, which involved pairs of children in the main play area (see below), the daycare worker began a session by inviting the four children in her group to play the buddy game. Then she took them to the location where it would be played. For initial test and training sessions, the children in the group were taken to an activity room separated from the main play area. No other children were present during these sessions. During the last four sessions (daycare practice sessions), the buddy game procedure was carried out at a table in the main play area of the daycare.

In the activity room, two small child-sized tables were placed about 1 meter apart. Each table had two chairs. For daycare practice sessions in the main play area, the two

pairs of children sat opposite each other at a larger child-sized table, with about 1 meter separating the two dyads. In both settings, observers sat about 2 meters from the children.

During each session, the child with disabilities was paired with each of the other children in the group over a series of trials. At the beginning of each trial, the daycare worker seated the children at the table(s) to structure the dyads, provided play material, and gave an initial prompt. The dyad with the child with developmental disabilities was observed during each trial. Sessions lasted approximately 30 minutes. The procedures for each type of test and training session are given below, and the instructions followed by the daycare staff for training and test sessions can be found in Appendix D.

*Pretraining test session.* This session was carried out in the main daycare play area. The children were not instructed that they were going to play the buddy game, and they were not organized into their groups. Individually, each of the three typically developing children in a group was placed at a table next to the child with disabilities in the same group by the daycare worker who then prompted the dyad to “stay, play, and talk” with their buddy. No further prompts were given during the 5-minute trial. This procedure was repeated for a second trial with the same pair.

*Pretest session.* This session was conducted with each group in the activity room. The daycare worker told the children they were going to play a buddy game and explained, “A buddy is someone who is a really good friend. Buddies like to sit together, play together, and talk together.” After assigning buddy pairs and placing two of the same type of toy (2 puzzles, 2 crayons & colouring books, or 2 pop-up picture books) on each table, she prompted them to “Stay and play with your buddy, and talk to your buddy

until you hear the bell.” Then she set the timer for 4 minutes. No further prompts were given to the children.

At the end of the 4-minute trial she instructed the children that they would play the buddy game again, rearranged the pairs, placed new toys on the tables, and gave the prompt. This procedure was repeated for a total of six trials. The three typically developing children were assigned as the buddy for the child with developmental disabilities on two nonconsecutive trials.

*Training instruction sessions.* In these two sessions the daycare worker discussed and demonstrated buddy skill strategies, and conducted three practice trials with her group. Each of the three typically developing children were assigned as the buddy for the child with disabilities for one of these trials. A box containing several toys (a puzzle, puppet, set of blocks, and book) was placed next to each of the tables, and the children could select items from the box next to their table during each trial.

The first instruction session emphasized the importance of staying close and playing with your buddy. At the beginning of each practice trial, the children were prompted to, “Stay with your buddy and play with your buddy until you hear the bell sound.” During each 4-minute trial, the daycare worker was instructed to remind the children to stay and play with their buddies and to suggest ways the children could play together. After the first and second trials, she reviewed staying and playing strategies with the children before starting the next trial.

The second instruction session added the talking strategy to staying and playing. After reminding the children about the stay and play strategies, the daycare worker

explained that, "Buddies talk to each other when they are playing. They talk about their toys or about other things." Nonverbal communication was introduced into this discussion by saying, "Not all buddies talk with words, some will talk to you with actions. Some buddies will smile at you, or nod their heads yes or no. Some buddies will touch a toy or tap your arm. A good buddy watches to see what their buddy is saying with their actions." She demonstrated nonverbal communications for the children.

On each of the three practice trials, after assigning buddy pairs, the daycare worker asked the typically developing children to forecast something they would talk about by asking, "Tell me something you are going to talk about with your buddy." After the children responded, they were prompted with, "Now, stay, play, and talk to your buddy until you hear the bell sound." During each 4-minute trial, the daycare worker was instructed to remind the children to stay, play, and talk as necessary. After the first and second trials, she reviewed staying and playing strategies with the children before starting the next trial.

*Training practice and daycare practice sessions.* At the beginning of each practice session, the daycare worker reviewed the stay, play, and talk strategies. Then she gave six trials during which each of the three typically developing children were assigned as the buddy for the child with disabilities on two consecutive trials. The procedure for each trial involved the daycare worker: (a) assigning buddy pairs; (b) assigning pairs to activities; (c) giving the verbal prompt, "Now, stay, play, and talk to your buddy until you hear the bell sound."; (d) starting the timer; (e) reminding the children to stay, play, and talk as necessary during the 4-minute trial, and (f) giving verbal praise or instructional feedback at the end of the trial.

For the first two training practice sessions, a box containing several toys (a puzzle, puppet, set of blocks, and book) was placed next to each of the tables, and the children could select items from the box next to their table during each trial. For the third and fourth training practice sessions and the three daycare practice sessions, each pair of children was given one toy to play with at the beginning of each trial by the daycare worker. This procedure was adopted to encourage cooperative play. The children were given another toy if they asked for one during the trial. The toy varied from trial to trial. The children were told, "I am going to give you just one toy or book or puzzle. You show me how you can play with the same toy or book with your buddy. You can take turns playing with it. You can help your buddy play with it, or you can play together with it."

*Posttraining test sessions.* At the beginning of these sessions, the daycare worker reminded the children that, "A buddy is someone who is a really good friend. Buddies like to sit together, play together, and talk together." She then instructed them as follows, "I want you to show me you can be good buddies without being reminded." Six test trials were given with only the initial prompt on each trial, no prompting during the 4-minute trials, and no praise or other feedback at the end of the trials.

The first and second posttraining test sessions followed the second training practice session (see Table 1). For the first posttraining test session, the toys were arranged in the same manner as in the pretraining test session, and the three typically developing children were assigned as the buddy for the child with disabilities on two nonconsecutive trials. For the second posttraining test session, the toys were provided in a box at each table in the same manner as during the training instruction sessions and the first two training

practice sessions. The third posttraining test session followed the third daycare practice session. For this test, one toy was provided to each dyad at the beginning of each trial, following the procedure used in the third and fourth training practice sessions and the daycare practice sessions. Consistent with the procedure used during the training practice sessions and daycare practice sessions, the three typically developing children were assigned as the buddy for the child with disabilities on two consecutive trials during the second and third posttraining test sessions.

#### *Social Validation*

The Buddy Skills Program Evaluation questionnaire (see Appendix E) was completed after the last observation session by the daycare workers who conducted the buddy skills sessions, and the two special needs workers who accompanied the children with disabilities during most of the test and training sessions.

#### *Procedural Reliability*

During training and test sessions, an observer recorded whether or not each step in the procedures described in Appendix D was followed by the daycare worker. Procedural reliability was calculated by counting the steps carried out by each of the daycare workers, dividing this number by the total number of steps, and then multiplying by 100. Their procedural reliabilities were 99.4% and 100%.

#### *Interobserver Agreement*

The primary observer for each session was Stephanie Hutchings-Murphy; in addition, one of two senior undergraduate students observed independently during 50% videotaped examples of interactions between typically developing preschool children and

children with developmental disabilities and practice coding in the daycare.

Percentage agreement scores were calculated separately for observations during training and test sessions and observations during sessions involving regular daycare activities (pretraining, pretraining probe, concurrent, and posttraining observations). For each category in the observing code, scores were calculated by including all observation intervals [ $IOA1 = (\text{number of agreements}/\text{number of intervals}) \times 100$ ] and including only intervals when the category was scored by at least one of the two observers [ $IOA2 = \text{number of agreements}/(\text{number of agreements} + \text{disagreements}) \times 100$ ].

The scores for each measure are shown for observations during training and test sessions in Table 2 and for observations during sessions involving regular daycare activities in Table 3. IOA1 scores were high for all categories in both settings. IOA2 scores were below 80% for adult positive feedback and adult instructional feedback in both settings. IOA2 scores for responses by typically developing children (T Responses), responses by children with developmental delays (D Responses), and onlooker behaviour were below 80% for observations during training and test sessions.

Table 2

*Percent Interobserver Agreement Scores for Training and Test Sessions*

<u>Category/Measure</u>	<u>IOA1</u>	<u>IOA2</u>
T Initiations	96%	87%
T Responses	97%	57%
D Initiations	97%	84%
D Responses	95%	73%
Adult prompts	95%	88%
Adult positive feedback	99%	40%
Adult instructional feedback	99%	38%
Cooperative play	97%	85%
Parallel play	97%	92%
Onlooker behavior	96%	76%
Solitary play	100%	87%
Proximity	99%	99%

Table 3

*Percent Interobserver Agreement Scores for Pre-training, Probe, Concurrent, and Posttraining Sessions.*

Category	IOA1	IOA2
T Initiations	99%	93%
T Responses	99%	80%
D Initiations	99%	86%
D Responses	99%	88%
Adult prompts	97%	86%
Adult positive feedback	98%	65%
Adult instructional feedback	99%	69%
Cooperative play	100%	97%
Parallel play	98%	95%
Onlooker behavior	99%	87%
Solitary play	98%	96%
Proximity	97%	96%

## Results

*Pretraining Observations*

The number of instances of proximity, communicative behaviours, play behaviours, and adult interactions were counted separately for D1 and D2 for each pre-training session and divided by the number of 20-second observation intervals in the session. The mean number of children in proximity to the target child per observation interval (proximity number) was also calculated for each session. The means of these scores over pretraining observation sessions are given in Table 4 for D1 and D2.

Table 4

*Mean Proportion of Intervals during Pre-Training Sessions for each Category*

Category/Participant	D1	D2
Proximity	0.83	0.91
Proximity number	1.78	1.64
Communication		
T initiations	0.05	0.06
T responses	0.00	0.03
D initiations	0.01	0.11
D responses	0.02	0.09
Play		
Cooperative	0.01	0.02
Parallel	0.11	0.23
Onlooker	0.18	0.09
Solitary	0.66	0.46
Adult Interactions		
Adult prompts	0.25	0.27
Adult positive feedback	0.14	0.14
Adult instructional feedback	0.02	0.03

Note: T refers to typically developing children, D refers to child with developmental disabilities.

The scores for D1 and D2 show that both children were observed to be in proximity to a typically developing child during most observation intervals and that the mean number of children in proximity was between 1 and 2. Despite physical proximity, typically developing children were very rarely observed to initiate or respond to D1 and D2. D1 was rarely observed to initiate or respond to the typically developing children. D2 initiated and responded to typically developing peers during approximately 10 percent of the intervals. With respect to play behavior, D1 and D2 were rarely observed to be engaged in cooperative play. They were most often observed in solitary play. Adult prompting and positive feedback were the most frequent types of interactions observed during pretraining sessions.

#### *Effects of Training on Children with Developmental Disabilities*

The target behaviours for the buddy game intervention were proximity, communicative interactions and responses, and cooperative play. Consequently, changes in these behaviours were examined across sessions. The number of instances of proximity, initiations, responses, and cooperative play were counted separately for D1 and D2 for each session and divided by the number of 20-second observation intervals in the session. Depending upon the type of session, the total number of 20-second intervals ranged from 24 to 70.

The proportion of intervals scored for proximity was consistently very high. The mean proportion of intervals with proximity was .85 for D1 and .95 for D2 during pretraining, concurrent, and posttraining observation sessions. During probe, pretest, training, and posttest sessions, the mean proportion of intervals with proximity was .98

for D1 and .99 for D2. These proportions suggest a small increase in proximity during the buddy game, as compared with observations during regular daycare activities, but the high pretraining observation baseline for proximity left little room for improvement.

The mean proportion of intervals with initiations, responses, and cooperative play were each examined graphically for D1 and D2. Proportion of intervals with initiations to peers is plotted for D1 in Figure 1. During pretraining sessions (PO1 to PO6), the proportion of intervals with initiations was consistently very low and remained very low during the probe (PR) and pretest (PT) sessions. Initiations increased slightly from the first to the second training instruction session (TI1 to TI2), and a further small increase occurred from the second training instruction session (TI2) to the first training practice session (TP1). However, initiations decreased to pretraining levels during the second training practice (TP2) and first posttest (PT1) sessions. An increase in initiations above pretraining levels occurred during the second posttest (PT2) and third and fourth training practice sessions (TP3 and TP4). However, initiations decreased to pretraining levels over the three daycare training (DT1 to DT3) and third posttest (PT3) sessions. During the three concurrent observation sessions in the daycare (C1, C2, and C3), initiations remained at pretraining levels. The posttraining observation session (PO) showed a small increase in initiations over pretraining levels. In summary, the proportion of intervals with initiations increased for D1 during the last two buddy game sessions in the activity room. This change was not maintained during daycare training sessions. Furthermore, no evidence of generalization to regular daycare activities was found during concurrent observation sessions, and the only evidence of generalization was found during the

posttest observation session.

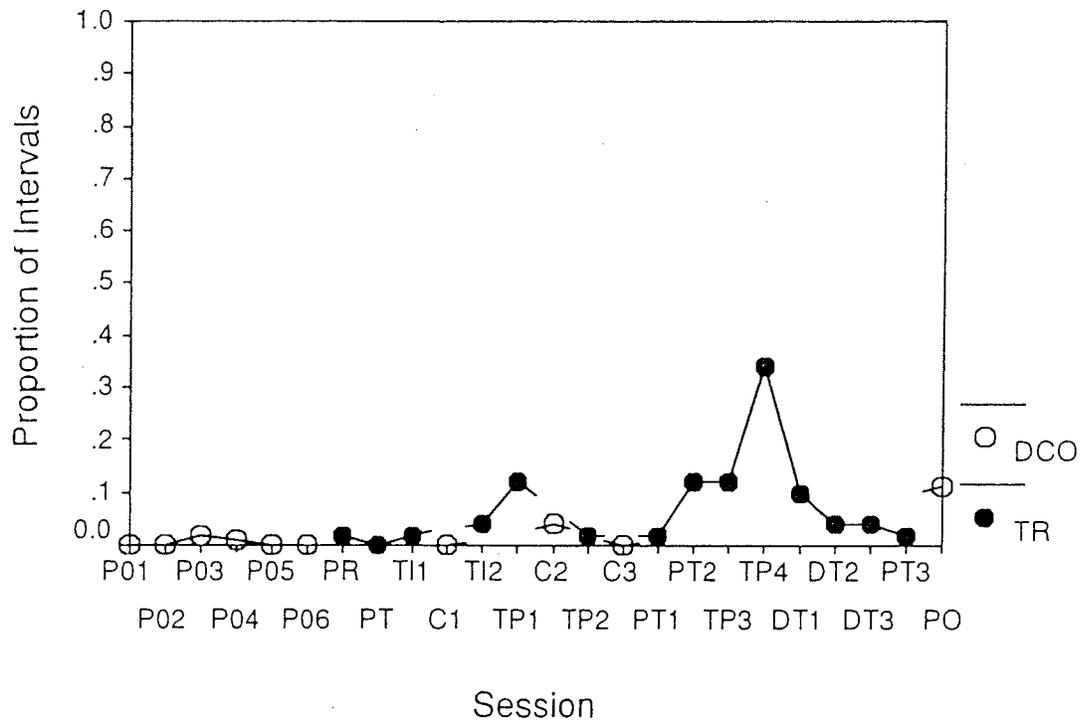


Figure 1. Initiations by D1 during day care observations (DCO) and training (TR).

P0 = Pretraining Observation Session
PR = Pretraining Probe Session
PT = Pre- or Posttraining-test Session
C = Concurrent Observation Sessions
TI = Training Instruction Sessions
TP = Training Practice Sessions
DT = Daycare Practice Sessions
PO = Posttraining Observation Session

Proportion of intervals with communicative responses to peers is plotted for D1 in Figure 2. During pretraining observation sessions (P01 to P06), the proportion of intervals with responses was consistently very low, and remained at this level during probe (PR) and pretest (PT) sessions. Responses increased from these low levels during the first and second training instruction sessions (TI1 and TI2), and a further substantial increase occurred from the second training instruction session to the first and second training practice sessions (TP1 and TP2). Responses decreased to pretraining levels during the first posttest session (PT1), but increased from the second posttest session (PT2) through the third and fourth training practice sessions (TP3 and TP4). Responses decreased to a lower level from the fourth training session to the daycare training sessions (DT1 to DT3), but remained above pretraining levels through the third posttest session (PT3). During the three concurrent observations (C1, C2, and C3) and the posttest observation session (PO), responses remained at pretraining levels. In summary, the proportion of intervals with responses showed a substantial increase during the Buddy Game for D1. However, there was no evidence of generalization to regular daycare activities found in concurrent and posttraining observation sessions.

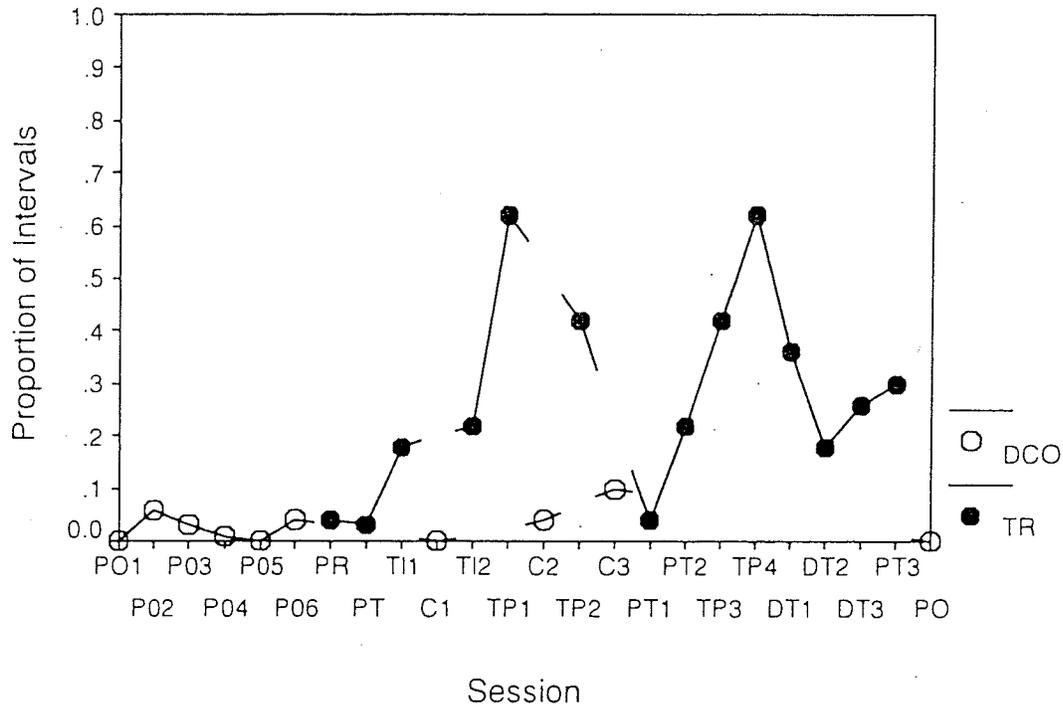


Figure 2. Responses by D1 during day care observations (DCO) and training (TR).

P0 = Pretraining Observation Session
PR = Pretraining Probe Session
PT = Pre- or Posttraining-test Session
C = Concurrent Observation Sessions
TI = Training Instruction Sessions
TP = Training Practice Sessions
DT = Daycare Practice Sessions
PO = Posttraining Observation Session

Proportion of intervals with cooperative play episodes is plotted for D1 in Figure 3. During pretraining observation sessions (P01 to P06), the proportion of intervals with cooperative play was consistently very low, and remained at this level during probe (PR) and pretest sessions (PT). Cooperative play increased from these low levels during the first and second training instruction sessions (TI1 and TI2), and a further substantial increase occurred from the second training instruction session to the first and second training practice sessions (TP1 and TP2). Cooperative play decreased to pretraining levels during the first posttest session (PT1), but increased from the second posttest session (PT2) through the third and fourth training practice sessions (TP3 and TP4). Cooperative play decreased from the fourth training practice session over the three daycare training sessions (DT1 to DT3), but increased slightly during the third posttest session (PT3). During the first two concurrent observation sessions (C1 and C2), cooperative play remained at pretraining levels. There was an increase over this level at the third concurrent session (C3), but the posttraining observation session (PO) showed cooperative play at pretraining levels. In summary, the proportion of intervals with cooperative play increased during the Buddy Game for D1. However, there was no consistent evidence of generalization to regular daycare activities found in concurrent and posttraining observation sessions.

Overall, D1 exhibited increased initiations to peers during the final buddy game sessions in the activity room. He increased his rate of responding to peers and cooperative play during buddy game sessions in both the activity room and the daycare. There was little evidence of generalization of these changes to regular daycare activities.

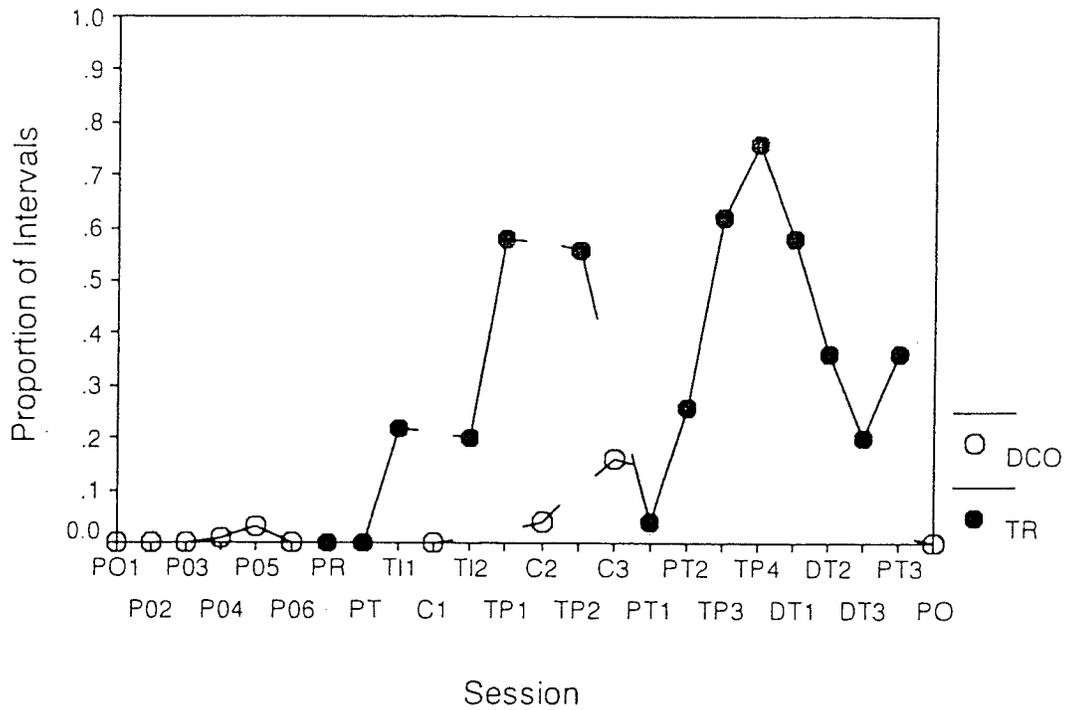


Figure 3. Cooperative play by D1 during day care observations (DCO) and training (TR).

P0 = Pretraining Observation Session
PR = Pretraining Probe Session
PT = Pre- or Posttraining-test Session
C = Concurrent Observation Sessions
TI = Training Instruction Sessions
TP = Training Practice Sessions
DT = Daycare Practice Sessions
PO = Posttraining Observation Session

Proportion of intervals with initiations to peers is plotted for D2 in Figure 4. During pretraining sessions (P01 to P08), the proportion of intervals with initiations was low overall, although it ranged from 0 to .3 across sessions. During the probe (PR), pretest (PT), and training instruction (TI1 and TI2) sessions, the level of initiations remained low. The proportion of initiations increased above baseline levels during the two training practice sessions (TP1 and TP2), and stayed at this level during the next four sessions (PT1, PT2, TP3, and TP4). The proportion of intervals with initiations declined from the first to the second daycare practice session (DT1 to DT2), but increased in the third daycare practice session (DT3) and third posttest session (PT3). Initiations remained at pretraining levels during the three concurrent observation sessions (C1, C2, and C3) and the posttraining observation session (PO). In summary, the proportion of intervals with initiations increased above baseline levels during the Buddy Game for D2, but there was no evidence of generalization to regular daycare activities shown by concurrent and posttraining observation sessions.

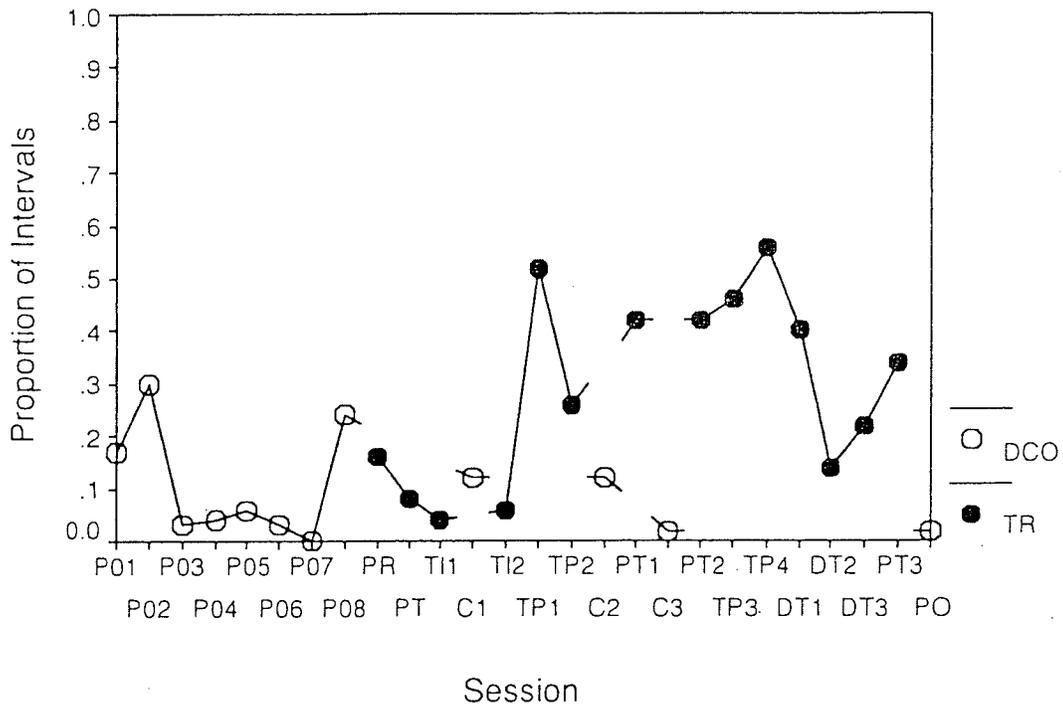


Figure 4. Initiations by D2 during day care observations (DCO) and training (TR).

P0 = Pretraining Observation Session
PR = Pretraining Probe Session
PT = Pre- or Posttraining-test Session
C = Concurrent Observation Sessions
TI = Training Instruction Sessions
TP = Training Practice Sessions
DT = Daycare Practice Sessions
PO = Posttraining Observation Session

Proportion of intervals with communicative responses to peers is plotted for D2 in Figure 5. During pretraining observation sessions (P01 to P08), the proportion of intervals with responses was consistently low, and remained at this level during probe (PR), pretest (PT), and first and second training instruction (TI1 and TI2) sessions. An increase in responses occurred in the first and second training practice sessions (TP1 and TP2), but responses declined during the first posttest (PT1) session. Responses increased over the next three sessions (PT2, TP3, and TP4), and remained above pretraining session levels during the remaining buddy game sessions (DT1, DT2, DT3, and PT3). During the three concurrent observations (C1, C2, and C3) and the posttest observation session (PO), responses remained at pretraining levels. In summary, the proportion of intervals with responses increased over pretraining levels by the end of training in the activities room. This change was smaller during subsequent daycare training sessions. There was no evidence of generalization to regular daycare activities found in concurrent and posttraining observation sessions.

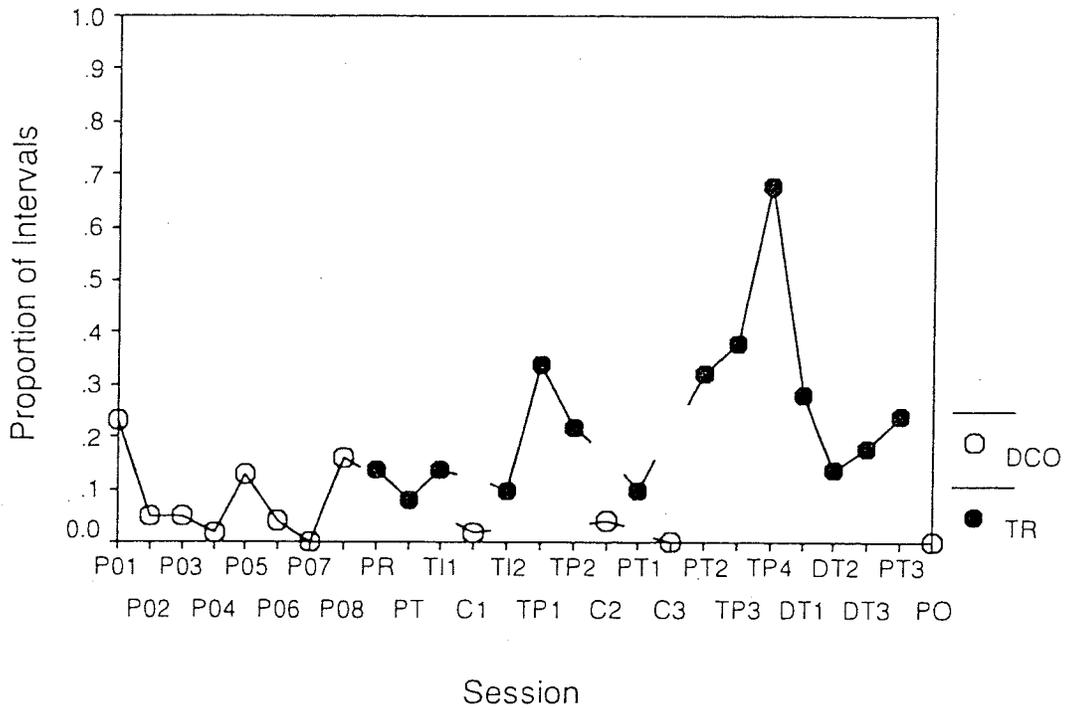


Figure 5. Responses by D2 during day care observations (DCO) and training (TR).

P0 = Pretraining Observation Session
PR = Pretraining Probe Session
PT = Pre- or Posttraining-test Session
C = Concurrent Observation Sessions
TI = Training Instruction Sessions
TP = Training Practice Sessions
DT = Daycare Practice Sessions
PO = Posttraining Observation Session

Proportion of intervals with cooperative play episodes is plotted for D2 in Figure 6. During pretraining observation sessions (P01 to P08), the proportion of intervals with cooperative play was consistently very low, and remained at this level during probe (PR), pretest (PT), and training instruction (TI1 and TI2) sessions. A small increase in cooperative play occurred in the first training practice session (TP1), but this dissipated over the second training practice (TP2) and first posttest sessions (PT1). Cooperative play increased substantially in the second posttest session (PT2) and the third and fourth training practice sessions (TP4), and continued above pretraining levels during the daycare practice (DT1 to DT3) and third posttest sessions. Cooperative play remained at pretraining levels during concurrent observation (C1, C2, and C3) and posttest observation (PO) sessions. In summary, the proportion of intervals with cooperative play showed a substantial increase during the final Buddy Game sessions for D2. However, there was no evidence of generalization to regular daycare activities found in concurrent and posttraining observation sessions.

Overall, D2 increased his rate of initiations and responses to typically developing peers over pretraining observation levels during the buddy game. Cooperative play also increased. There was no evidence of generalization of these changes to regular daycare activities.

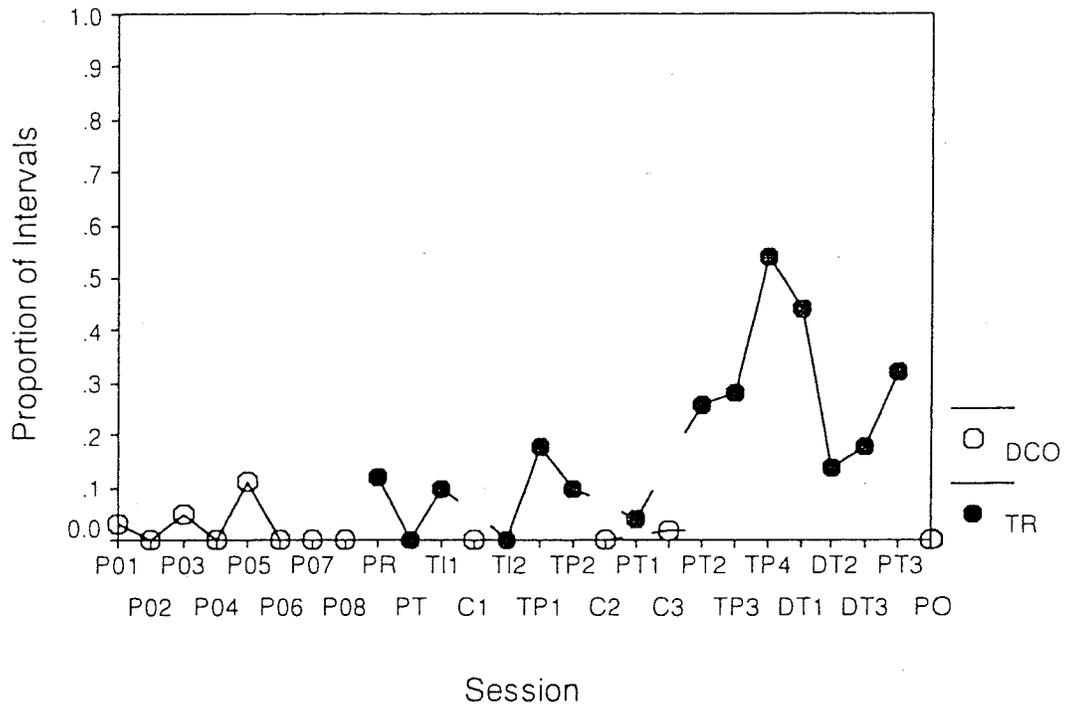


Figure 6. Cooperative play by D2 during day care observations (DCO) and training (TR).

P0 = Pretraining Observation Session
PR = Pretraining Probe Session
PT = Pre- or Posttraining-test Session
C = Concurrent Observation Sessions
TI = Training Instruction Sessions
TP = Training Practice Sessions
DT = Daycare Practice Sessions
PO = Posttraining Observation Session

*Effects of Training on Typically Developing Children*

The data for typically developing children differed from those obtained for children with developmental disabilities. During pretraining observations, the typically developing children were not systematically observed; consequently, their pretraining rates of initiations, responses, and cooperative play with the child with developmental disabilities in their group was based on the number of times they were observed in proximity to that child. Instances of cooperative play, initiations, and responses were counted and divided by the number of intervals when proximity occurred. These pretraining observation (PO) scores are given as percentages in the following figures. This score, in combination with the probe session (PR) and pretest (PT) scores, provide a baseline for each of the three target behaviours (initiations, responses, and cooperative play). Concurrent and posttraining observation session data are not available for the typically developing children because as in the pretraining observation sessions, they were not systematically observed and the short duration of these sessions did not provide enough instances of proximity between the children with disabilities and each typically developing participant to provide meaningful data.

During buddy game sessions, individual typically developing children were paired with the child with developmental disabilities for only 1 trial (training instruction sessions) or 2 trials (training and test sessions). In order to increase the stability of the data, the scores for the two training instruction sessions and the first two training practice sessions were combined (TR), as were the scores for the first two posttests (PT), the third and fourth training practice sessions (TR), and the three daycare practice sessions (DT).

The percentages of intervals with initiations, responses, and cooperative play for T1 with D2 are plotted in Figure 7. During pretraining observation (PO), probe (PR), and pretest (PT) sessions, the percentage of intervals with these behaviors was very low. During the initial buddy game training instruction and practice sessions (TR), initiations by T1 to D2 increased above baseline levels and remained elevated with the exception of the final posttest session. Responses by T1 were not consistently above baseline during the buddy game sessions. Cooperative play increased during the third and fourth training practice sessions in the activity room, but decreased to baseline levels in the daycare training and posttest sessions.

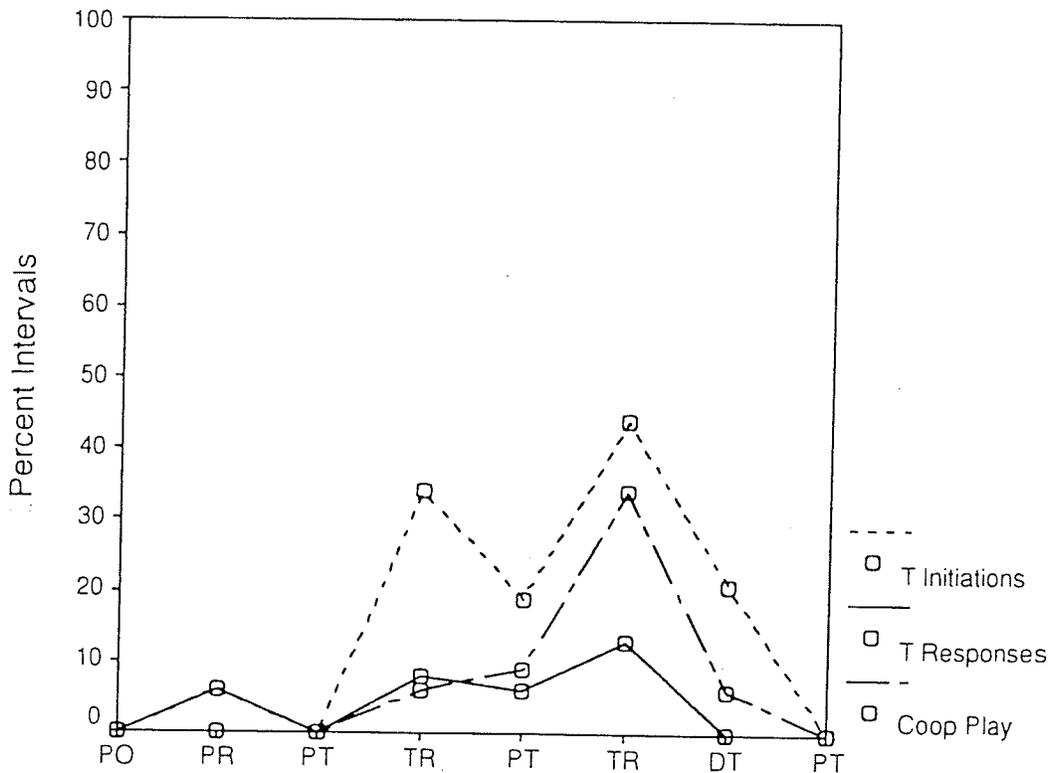


Figure 7. Initiations, responses, and cooperative play of T1 with D2.

Figure 8 shows the percentages of initiations, responses, and cooperative play by T2 with D1. The percentages of intervals with initiations and cooperative play increased during the initial training sessions and remained above baseline levels until the final posttest session. Responses by T2 to D1 increased during the first two posttest sessions and remained above baseline until the final posttest session.

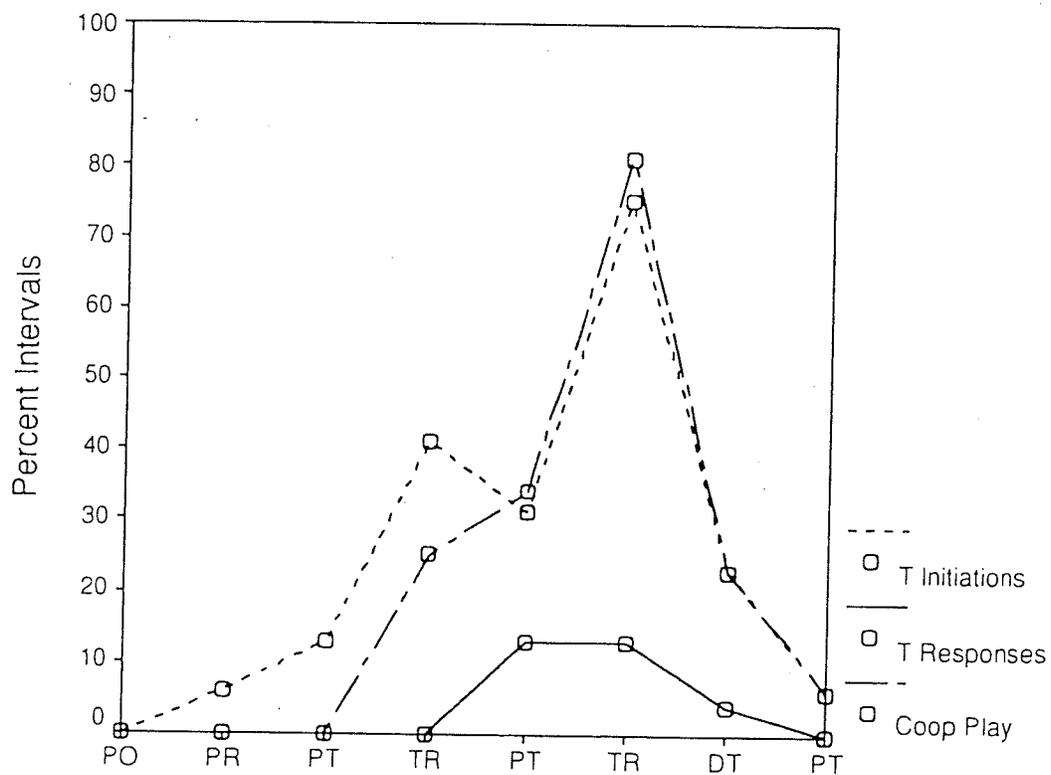


Figure 8. Initiations, responses, and cooperative play of T2 with D1.

The percentages of intervals with initiations, responses, and cooperative play for T3 with D2 are plotted in Figure 9. All three behaviours increased during buddy game training sessions, but returned to baseline during posttest sessions.

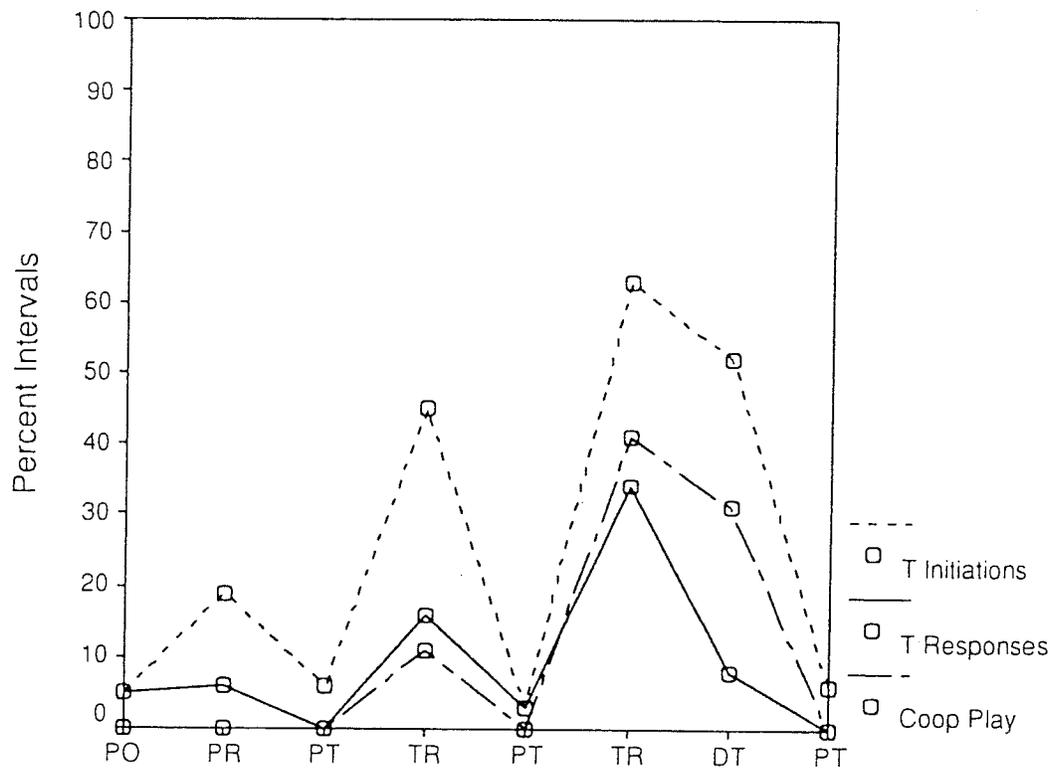


Figure 9. Initiations, responses, and cooperative play of T3 with D2.

The percentages of intervals with communicative initiations, responses, and cooperative play by T4 with D1 are plotted in Figure 10. Initiations and cooperative play increased above baseline levels during the initial training sessions, but returned to baseline levels during the subsequent posttest sessions. During the third and fourth training practice sessions, initiations and cooperative play increased and remained above baseline levels during daycare training and the final posttest sessions. Responses by T4 to D1 increased above baseline only during the third and fourth training practice sessions.

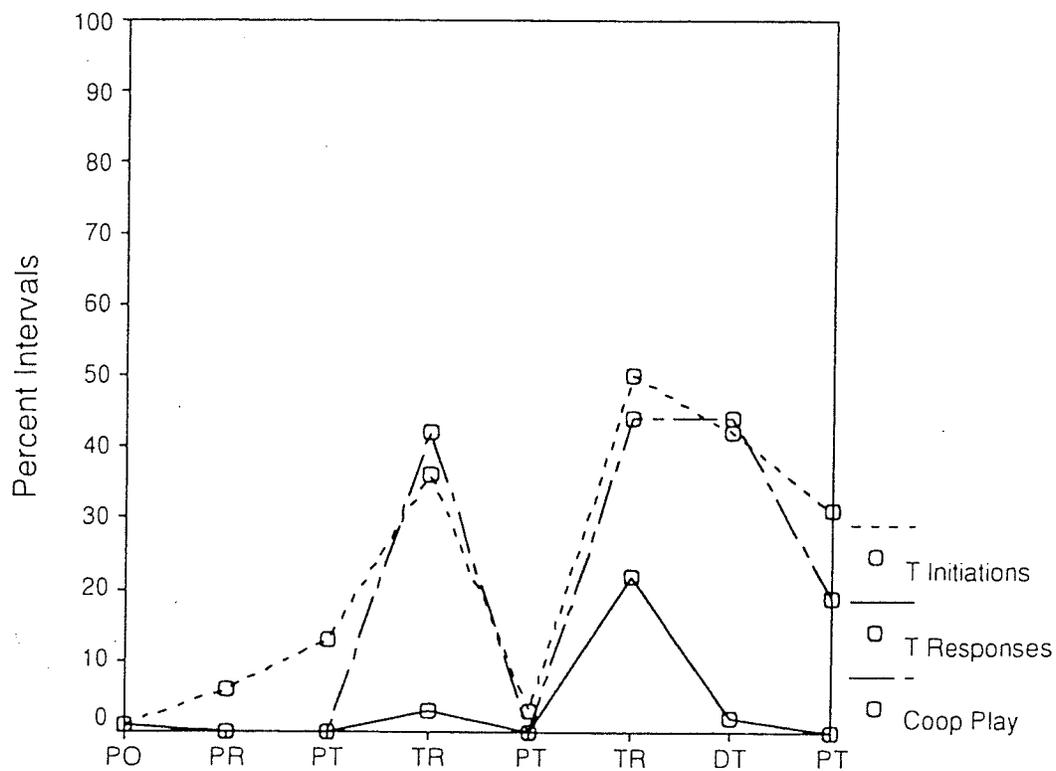


Figure 10. Initiations, responses, and cooperative play of T4 with D1.

The percentages of intervals with communicative initiations, responses, and cooperative play by T5 with D2 are plotted in Figure 11. T5 increased initiations, responses, and cooperative play over sessions, and maintained a high rate of these behaviours during the final posttest session.

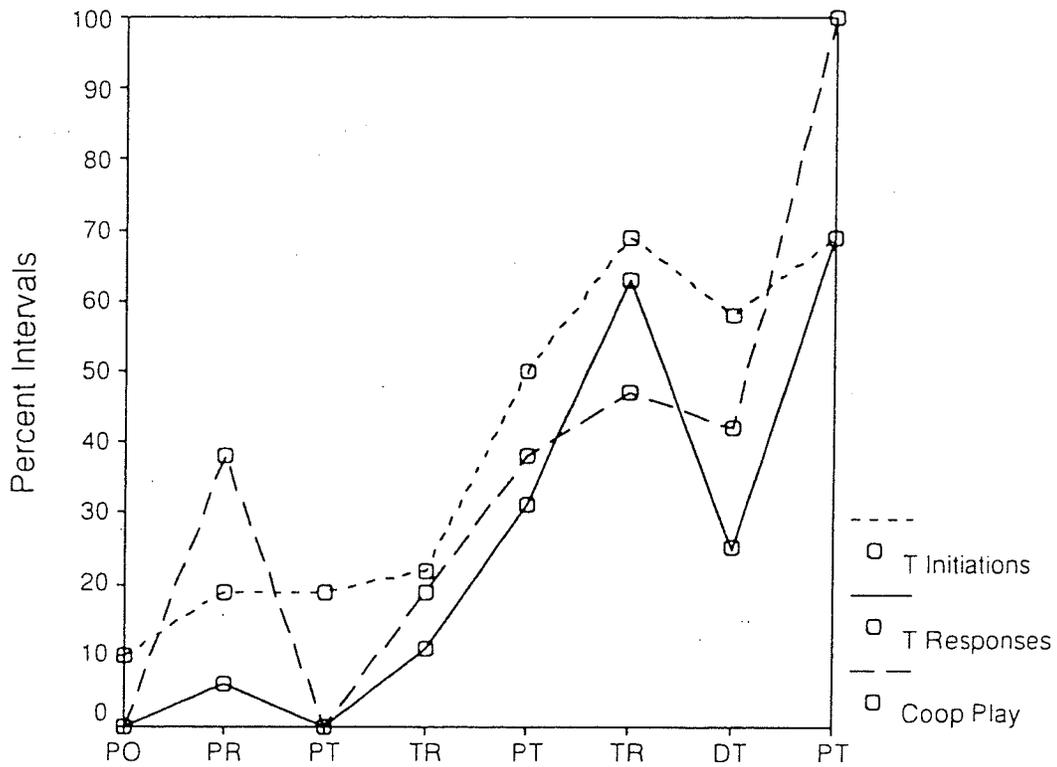


Figure 11. Initiations, responses, and cooperative play of T5 with D2.

The percentages of intervals with initiations, responses, and cooperative play by T6 with D1 are plotted in Figure 12. Initiations and cooperative play increased above baseline levels during initial buddy game training sessions. After returning to near baseline levels during the first two posttest sessions, initiations and cooperative play increased during the next two training sessions and remained above baseline during the daycare practice sessions and final posttest. Responses by T6 to D1 also increased during buddy game sessions, but decreased to baseline level during the final posttest.

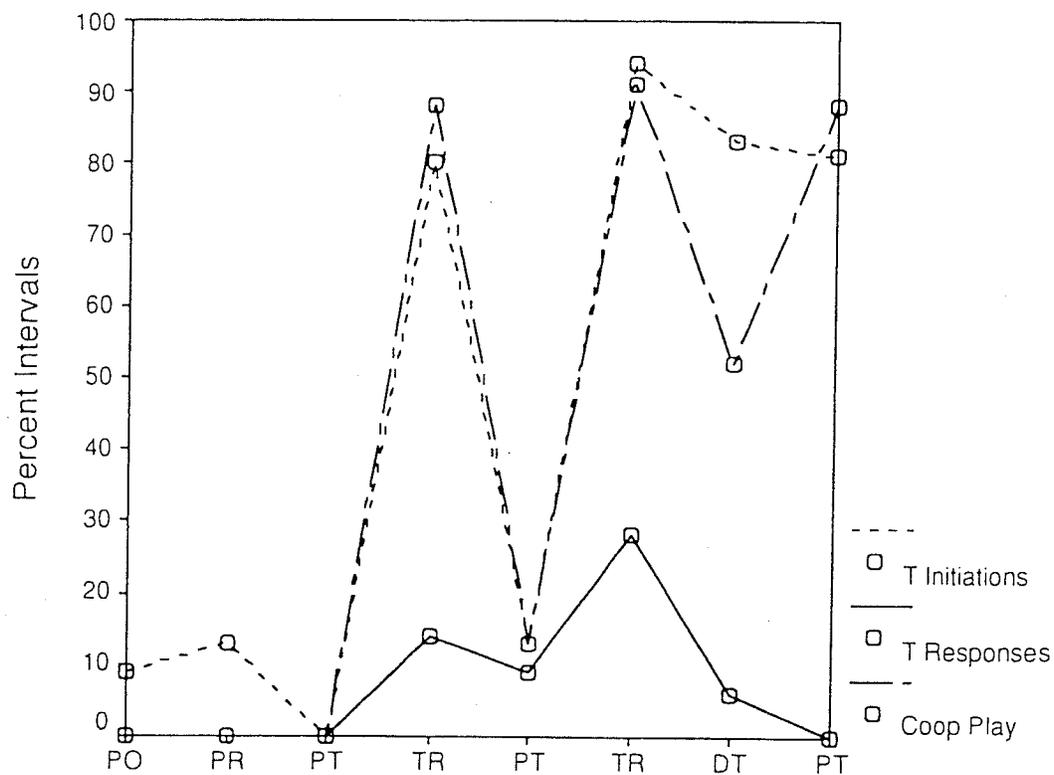


Figure 12. Initiations, responses, and cooperative play of T6 with D1.

The performance of the typically developing children during buddy game training, as shown in the preceding figures, is summarized in Table 5. All typically developing children increased their initiations, responses, and cooperative play during the training practice sessions. Initiations and cooperative play also increased over baseline levels during daycare practice sessions, but responses only changed for T3 and T5. Increases over baseline levels were only found for T4, T5, and T6 during the posttest.

Table 5

*Changes in Initiations (I), Responses (R), and Cooperative Play (C) of Typically Developing Children during three Phases of the Buddy Game*

Child	Training Practice			Daycare Practice			Posttest			Total
	I	R	C	I	R	C	I	R	C	
T1	+	+	+	+	-	+	-	-	-	5
T2	+	+	+	+	-	+	-	-	-	5
T3	+	+	+	+	+	+	-	-	-	6
T4	+	+	+	+	-	+	+	-	+	7
T5	+	+	+	+	+	+	+	+	+	9
T6	+	+	+	+	-	+	+	-	+	7

*Note:* A plus (+) indicates an increase in percentage of intervals greater than 10% over baseline levels, and a minus (-) indicates no increase or an increase of less than 10% over baseline performance.

*Evaluation of Buddy Game Intervention by Daycare Staff*

Table 6 shows the results of the General Social Validation Questions (see Appendix E) given to the two daycare staff that facilitated the buddy training, as well as the two special needs staff, after the buddy game was completed.

Table 6

*Frequency of Answers to General Social Validation Questions*

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	0	1	3	0	0
2	0	1	0	3	0
3	0	0	2	2	0
4	0	1	3	0	0
5	0	1	2	1	0
Total	0	4	10	6	0

Question 1 pertained to the effectiveness of the Buddy Game for increasing communication between the children with and without disabilities. Question 2 asked about the effectiveness of the Buddy Game for encouraging play between the dyads, and the Question 3 asked if the Buddy Game was easily implemented. Question 4 asked if the Buddy Game should be used in their daycare, and Question 5 asked about the Buddy Game being impractical for a daycare setting.

Overall, the daycare staff answered neutral to most of the questions about the effectiveness of the Buddy Game for encouraging interaction between the typically developing children and their classmates with disabilities, and the practicality of the Buddy Game in a daycare setting. There were no instances of the daycare staff strongly agreeing or disagreeing with the general questions, and out of the questions that weren't answered neutral there were more agreements with the questions than there were disagreements.

Table 7 shows the acceptability of the Buddy Game for the daycare environment according to the daycare staff (see Appendix E).

Table 7

*Frequency of Answers to Questions about Acceptability of Buddy Game Procedures*

Question	Unacceptable	Acceptable under certain conditions	Acceptable under most conditions	Completely acceptable
1	0	1	2	1
2	0	2	1	1
3	0	2	1	1
4	0	0	2	2
5	0	0	2	2
6	0	1	2	1
7	0	3	1	0
Total	0	9	11	8

The daycare staff were asked the acceptability of arranging the buddy pairs (Question 1), prompting the children (Question 2), selecting toys for the children (Question 3), giving praise or instructional feedback (Question 4), pairing the children with new buddies (Question 5), including four children in the Buddy Game (Question 6), and the overall acceptability of the Buddy Game (Question 7).

The daycare staff found the Buddy Game to be acceptable under most conditions. No part of the Buddy Game was found to be unacceptable. A few elements were thought to be acceptable under certain conditions, and other elements were completely acceptable. In summary, the daycare staff found the Buddy Game to be acceptable to use in a daycare setting at least under most conditions.

Responses by the daycare staff on questions about the feasibility of the Buddy Game for a daycare environment (see Appendix E) are shown in Table 8.

Table 8

*Frequency of Answers to Questions about Feasibility of Buddy Game Procedures*

Question	Never Feasible	Feasible on infrequent occasions	Feasible sometimes	Feasible nearly all the time
1	0	1	2	1
2	0	1	2	1
3	0	2	2	0
4	0	0	2	2
5	0	0	3	0
6	0	1	0	2
7	0	3	1	0
Total	0	8	12	6

The daycare staff were asked about the feasibility of arranging buddy pairs (Question 1), prompting the children (Question 2), selecting toys for the children (Question 3), giving praise and instructional feedback (Question 4), pairing the children with new buddies (Question 5), including four children in the Buddy Game (Question 6), and the overall feasibility of the Buddy Game (Question 7).

These results indicate that daycare staff found the Buddy Game to be feasible on infrequent occasions, sometimes, or nearly all the time. No element of the Buddy Game

was found never to be feasible in a daycare environment. Overall, the daycare staff thought the Buddy Game was feasible sometimes in a daycare setting.

*Daycare Staff Ratings of Typically Developing Children*

Table 8 shows the Social Interaction and Teachability ratings s that the two daycare staff to each typically developing child prior to training (see Appendix B).

Table 8

*Daycare Staff Ratings for Typically Developing Children*

Typically Developing Child	Social Interaction Scores			Teachability Scores		
	Rater 1	Rater 2	Mean	Rater1	Rater2	Mean
T1	4	4	4	8	6	7
T2	4	5	4.5	6	8	7
T3	9	9	9	6	7	6.5
T4	7	6	6.5	7	7	7
T5	9	10	9.5	10	9	9.5
T6	9	9	9	8	8	8

The social interaction score was the total of the ratings on questions 2 and 3 of the rating scale, which pertained to whether or not the child interacts with children without disabilities in an appropriate manner and whether or not the child interacts with

children with disabilities in an appropriate manner. The teachability score was the sum of the ratings on Questions 4 and 5, which pertained to whether or not the child complies with teacher requests and instruction, and the child's ability to concentrate on a task. As can be seen in Table 8, there was little variability in the mean Teachability scores, but mean Social Interaction ratings showed larger differences between children.

The Social Interaction ratings were rank ordered, and this ranking was compared to the children's ranking on total scores from Table 5, as a measure of differences in performance during the buddy game. T5 ranked highest on both Social Interaction ratings and performance during the buddy game, T6 was tied for the second ranking on both measures, T1 and T2 tied for the lowest ranking on performance during the buddy game and were 5<sup>th</sup> and 6<sup>th</sup> ranked on the Social Interaction ratings. Differences in rankings occurred for the other two children. T3 was tied for the second highest Social Interaction, but was fourth ranked on performance. T4 received was ranked fourth on Social Interaction, but tied for the second highest rank on the performance measure. Overall, teacher ratings of social interactions were an imperfect predictor of performance during the buddy game.

## Discussion

Numerous studies have shown that preschool children with and without developmental disabilities rarely interact in a preschool setting in the absence of programming to encourage social contact between the two groups (e.g., Hill & Whiteley, 1985; Kopp, Baker, & Brown, 1992). Consistent with these findings, the results from pretraining observation sessions in the present study showed that the two children with disabilities had few social interactions with their typically developing classmates during free play periods in the daycare even though they were usually in close proximity to one or more peers. Most of their interactions occurred with adults, and they were most frequently playing independently of other children. These findings support the need for an acceptable and feasible intervention to promote social interaction in daycare settings.

The main purpose of this study was to assess the buddy game intervention, which was based on the buddy skills training procedure developed by Goldstein et al. (1997) and English et al. (1997), but simplified to enable daycare staff to carry it out. It was shown that the buddy game intervention increased initiations, responses, and cooperative play between the two children with disabilities and their typically developing peers during buddy game sessions in the activity room. Initiations and cooperative play were also higher during the daycare training sessions than during the pretraining observation sessions, but were lower than during the training sessions in the activity room.

There are several possible reasons for poorer performance during the daycare training sessions. The children generally sat at specific tables in the regular daycare for certain activities, and therefore it's possible that the children were affected by the novel

seating arrangements in the daycare training sessions. The children may have been distracted by their surroundings, as there were other children and activities present during daycare training sessions. The toys used during the daycare training sessions may have been less appealing when in the presence of other toys in the daycare. It is also possible that because the children learned the buddy game in the activity room, the change in context produced a decrement in performance.

Concurrent and posttraining observation sessions allowed us to monitor initiations, responses, and cooperative play during regular daycare activities during and immediately following training. As data collected during these sessions yielded similar findings to pretraining observation sessions for most children, changes during the buddy game cannot be attributed to maturational changes or changes in the daycare program that might have influenced the social behaviour of the children independently of the buddy game intervention.

Even though the buddy game increased social interactions between the children with disabilities and the typically developing children, this increase in social interaction was not found when adult prompting, positive feedback, and instructional feedback were withdrawn during the third posttest session and during the posttraining observation session. These findings indicate that the change in social interactions during training was due to adult interactions with the children. Prompting made up the majority of adult interactions, and therefore, it was likely that withdrawing adult prompts caused the typically developing children to decrease their social interactions with the developmentally disabled children.

Programming generalization of stay, play and talk strategies is an important area for future investigation. Fading out adult prompts and praise would be one means of facilitating generalization to regular daycare activities. In the present study, participants were trained in two settings – the activity room and daycare. Adding other settings, such as snack time or outdoor play, to these training contexts might also facilitate generalization. More effort could have been made to ensure that the toys used in the activities room were toys that the children used in the regular daycare as well. Future studies could also have various daycare staff implementing the training procedure so that the children would generalize to prompts from other daycare staff. It would also be interesting to see if the children would generalize stay, play, and talk to other children with disabilities.

Play and talk were the most challenging components of training. Children consistently followed the stay component of the prompt. Even though the children seemed to understand the play and talk component, they often played on their own rather than with their buddy. Perhaps more teaching about sharing and how to play cooperatively needs to be included in instruction sessions.

The children needed the most help with the "talk" element of the prompt. Because both the daycare staff and the typically developing children were having difficulty with forecasting, this element of the study was dropped. Forecasting might be easier if instead of asking the children to come up with a topic to talk about with their buddy, they were asked to think of a question to ask their buddy during the trial. Clearly improving the effectiveness of the talk portion of the intervention would increase the social interactions

between the children with disabilities and their typically developing classmates.

It was shown during the pretraining observation sessions that very little positive feedback (praise) or instructional feedback was given to the children with disabilities by adults; similarly, during training trials there were many fewer instances of positive feedback than there were prompts. It may be necessary to ensure that the daycare staff give more positive feedback and instructional feedback to the children to improve the effectiveness of training.

The daycare staff found some aspects of the intervention to be completely acceptable and feasible, and other aspects to be acceptable and feasible only under certain circumstances. Consequently, the intervention was only partly acceptable and feasible according to the daycare staff. Two of the four daycare staff felt that prompting the dyads to "stay, play, and talk" was acceptable under certain conditions, as was selecting toys for the children to play with during the buddy game. Overall, all other aspects of the Buddy Game were acceptable and feasible under most conditions or completely acceptable and feasible. Perhaps the two daycare workers who thought that the prompting to "stay, play, and talk" was acceptable under certain conditions, found the prompting to be too repetitious, or that the children weren't responding to their prompts all the time. Even though the prompting procedure had been greatly simplified from the English et al. (1997) and Goldstein et al. (1997) studies, it's possible that the prompt could be simplified further for daycare staff. As previously mentioned, it might be more effective for daycare staff to increase the frequency of positive feedback and instructional feedback and reduce the number of prompts. This might prove to be more acceptable

and feasible for daycare staff.

Selecting the toys for the dyads during the buddy game was only rated as acceptable under certain conditions. The daycare workers had some difficulty selecting toys during the buddy game training trials. Often, one of the children with disabilities didn't play with a toy even if asked to do so by the typically developing child. The two children with disabilities in this study reacted very differently to various toys, so at times the daycare staff may have felt that they weren't giving the dyads proper toys to facilitate social interaction, and this may have been a reason for staff rating the selection of toys as only being acceptable under certain conditions. It might be an improvement to have a set of toys that are chosen by the children with disabilities from toys in the daycare. These toys could be used when the children with disabilities are paired with a typically developing classmate. Or, when a child with disabilities is enjoying playing with a specific toy, that toy could be noted as being one that the child would likely enjoy playing with during the buddy game.

In summary, the buddy game intervention was successfully employed by daycare staff to increase social interactions and cooperative play between children with and without disabilities during training sessions. These changes did not generalize to regular daycare activities. Daycare staff rated most components of the intervention as acceptable and feasible under some conditions for use in the daycare. Further development of the buddy game is needed to include programming for generalization and to improve its feasibility for use in daycare settings.

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## Appendix A

**Legal Guardian Consent Form**  
**Project Description and Consent Form for Legal Guardians**

**Project Title: Promoting Social Interaction Between Preschoolers With and Without Developmental Disabilities Using a Simplified Buddy Skills Training Program.**

This project will be conducted by Stephanie Hutchings-Murphy (University of Manitoba) and supervised by Dr. John Whiteley (University of Manitoba).

**What is the study about?**

The purpose of the study is to simplify a buddy skills training program to make it feasible and acceptable for daycare workers to implement on a daily basis. The effectiveness of this simplified buddy skills program to increase the social interactions between typically developing preschool children and their disabled classmates will be evaluated.

**What will the project include, and how long will it last?**

If you give consent for your child to take part in this project, we will:

- have the daycare workers train your child to stay, play, and talk with his or her disabled and nondisabled classmates.
- assess the effectiveness of this "buddy" skills training program, i.e., assess whether or not the social interactions between the typically developing and disabled children increase.
- This project will last between 6-8 weeks.

**Is participation voluntary?**

Yes. Participation is voluntary. Whether your child participates or not will in no way affect any services he or she may be receiving now or in the future from River Road Children's Centre.

**Will the child's personal information be kept confidential?**

Yes. The identities of all participants will be kept confidential. All data collected during the study will be kept in a locked office and will be accessible only to the researchers. All participants will be assigned a number, and any presentations, reports, or publications as a result of this project will not contain any identifying information. The confidential records of the disabled children will be consulted in order to get information regarding their disabilities. This information will be kept strictly confidential.

**Are there any risks to taking part in the study?**

No. The training and assessment procedures will include verbal prompting and positive

reinforcement (e.g., praise). These procedures are common and do not present any risk to the child.

**Are there any benefits in taking part in the study?**

Yes. There are several benefits for the non-disabled and disabled children.

The nondisabled children will:

- learn more about the nonverbal communication of their disabled classmates.
- learn how to be a good buddy.
- make new friends.
- show an increased understanding and sensitivity for their disabled classmates.
- hold more positive attitudes towards disabled persons.

The disabled children will:

- engage in more social interactions.
- learn how to play and communicate with their nondisabled classmates.
- make new friends.

**Will participating cost anything?**

No.

**Is there any compensation for participating?**

No. There is no financial compensation for participating.

**Who should I call if I have questions or concerns about the project?**

If you have any questions or concerns please call Stephanie Hutchings-Murphy (275-7689, or 483-3428).

If you agree to allow your child to participate in this study, please return one signed copy of this consent form to Marian Siemens, the Coordinator of River Road Childrens Centre. We would appreciate receiving you reply by \_\_\_\_\_, 2002.

Name of Child \_\_\_\_\_

Name of Parent or Guardian \_\_\_\_\_

Signature of Parent or Guardian \_\_\_\_\_

Date \_\_\_\_\_

## Appendix B

**Teacher Rating Scale****Rater Number** \_\_\_**Instructions**

1. For each of the five characteristics below, circle the number that best describes the child based on your own observations.
2. Do not write the child's name on this form. Identify the child by placing the number that appears next to child's name on the attached list here:

**Child's Number** \_\_\_

3. Place the completed rating forms in the attached envelop, seal the envelop, and return it to Stephanie.

*Thank you for your assistance!*

1. Approximate day care attendance during the last 8 weeks:
  - 1 (absent 16 or more days)
  - 2 (absent 8 to 15 days)
  - 3 (absent 6 to 8 days)
  - 4 (absent 4 days)
  - 5 (absent 2 or fewer days)
2. Interacts with children without disabilities in an appropriate manner
  - 1 (almost never)
  - 2
  - 3 (occasionally)
  - 4
  - 5 (very often)
3. Interacts with children with disabilities in an appropriate manner
  - 1 (almost never)
  - 2
  - 3 (occasionally)
  - 4
  - 5 (very often)

## 4. Compliance with teacher requests and instruction

1 (rarely complies)

2

3 (occasionally complies)

4

5 (always complies)

## 5. Ability to concentrate on a task

1 (very poor)

2 (poor)

3 (adequate)

4 (good)

5 (very good)

## Appendix C

### Instructions for Observation Code

*Proximity-* Proximity occurs when the two focal children are within 1 m of each other for at least half of the 20-s observation interval (cf. Rubin, 1984).

#### *Initiations and Responses*

*Verbal/vocal initiation-* A verbal initiation is when a child initiates a communication verbally to his or her buddy. A positive initiation is e. g., asking a buddy to play, asking questions about toys, asking his or her buddy if they want to go somewhere or change activities.

An initiation will be coded as negative if the child calls names or verbalizes in other inappropriate ways, such as screaming at their buddy. Vocalizations will also be included in this category, e.g. a child vocalizing to their buddy and pointing to a toy.

*Nonverbal initiation-* A non-verbal initiation is when a child initiates a communication by a non-verbal action such as waving, or tapping their assigned buddy, e. g., a child picks up a toy and shows it to his or her buddy and then begins playing with it. He or she may point at a toy or activity area, or maybe just take their buddy by the arm and bring them to a certain area to play.

A negative nonverbal initiation is when a child hits or destroys materials or acts in other inappropriate ways when initiating non-verbally.

*Verbal/vocal response-* A verbal response is when a child responds to communication from a buddy verbally, e. g., accepting a toy or complying with a play suggestion verbally, "yes", "no", "don't

want to do that".

A verbal response is negative if it is uncomplimentary, rejecting, or harmful, e.g., "leave me alone".

*Nonverbal response-* A non-verbal response is when a child responds to a communication from a buddy with a non-verbal action, e. g., accepting a toy or complying with a play suggestion non-verbally, such as nodding head "yes", smiling at a suggestion, or pointing at something.

A negative nonverbal response is when a child makes uncomplimentary, rejecting, or harmful actions, such as pushing a child away.

#### *Examples of Play Behavior*

*Cooperative Play* – Cooperative play will be scored when the two children play together, mutually using or exchanging materials. The children engage in an activity with their buddy in which there is a shared goal or purpose, e. g, 1., a typically developing child and a disabled classmate put their lego house and garage together.

E. g. 2., a typically developing child and a disabled child both fill a jug with water while playing at the water table.

E. g. 3., both children build a castle in the sandbox.

E. g. 4., one child takes the other child by the hand and guides him/her to play with a toy or in an activity.

E. g. 5., both children are working on the same puzzle.

*Parallel Play* – The children play with similar toys but independently, not attempting to influence the play of the other child. They engage in an activity beside their

buddy, but not with their buddy, often at a distance of three feet or less,

e. g. 1., a typically developing child and a disabled classmate are playing lego. One is building a house and the other is building a garage for the house.

E. g. 2., both children are coloring in separate books beside each other.

E. g. 3., Both children are playing at the water table, one is filling a jug and another is pouring water into a cup. \*\*Since they have two different goals this would be parallel play.

*Solitary Play* – The children play independently with toys that are different from those of the other. The children are engaged in a activity alone, often at a distance from other children of greater than three feet. The disabled child and typically developing peer may be playing close to each other, but neither one of them are paying attention to what the other is doing.

E. g. 1., One of the children is playing at the water table, while the other is playing in the sandbox. \*\*If there is complete absence of attention to the other child, solitary play is occurring.

E. g. 2., typically developing child is playing at a table while the disabled child is sitting on the floor and they are not paying any attention to each other.

*Onlooker Behavior* – Onlooker behavior will be scored when the child watches the activities of their assigned buddy, but does not enter into the activity. For example, the typically developing child or disabled child watches his or her buddy draw a picture. The child makes no effort to join in on the drawing of the picture. This is called onlooker behavior.

E. g. 1., One of the focal children is watching his or her buddy build a house out of blocks. He or she is near to his/her playmate, or may be watching from a distance. The child may offer comments or laugh with their buddy, but does not get involved in the actual activity.

E. g. 2., one child laughs as he or she watches their buddy draw a picture.

*Examples of teacher prompts and reinforcements*

*Adult prompts-* Teacher prompts are corrective or directive responses by a teacher to a child prompting proximity, play, or social interaction,

e. g. 1., "you two stay, play, and talk together",

e. g. 2., "Ryan, look at Tommy playing in the sandbox, go and stay, play, and talk to Tommy",

e. g. 3., "Tommy, Ryan's playing alone, you go stay, play, and talk with him".

*Adult reinforcement -* Adult reinforcement is a positive verbal or nonverbal response by a teacher to the child for proximity, play, or social interaction,

*Adult reinforcements-* Adult reinforcement is a positive verbal or nonverbal response by a teacher to the child for proximity, play, or social interaction, Adult reinforcements- Adult reinforcement is a positive verbal or nonverbal response by a teacher to the child for proximity, play, or social interaction, e. g. 1., "you two are being very good buddies!"

e. g. 1., "you two are being very good buddies!" e. g. 1., "you two are being very good buddies!" E. g. 2., "Here are a couple of stickers for both of you for being good buddies to each other".

E. g. 2., "Here are a couple of stickers for both of you for being good buddies to each

other".E. g. 2., "Here are a couple of stickers for both of you for being good buddies to each other".

*Corrective Feedback-* Corrective feedback is providing a child or both children with information on the correct step(s) on how to be a good buddy when one or more of the steps had been left out by the child(ren).

e. g. 1., "Tommy and Joey, you have to play together to be good buddies".

E. g. 2. "Tommy, you have to stay with your buddy".

## Appendix D

### Buddy Skills Training and Test Session Instructions for Child Care Workers

#### Session 1 - Pre-test

The purpose of the Pre-test is to find out what the children will do before they are given any instructions when prompted to “stay, play and talk”.

#### Introduction

“Today we are going to play a buddy game. A buddy is someone who is a really good friend. Buddies like to sit together, play together, and talk together.”

“I am going to choose a buddy for you. Then I will ask you to stay with your buddy, play with your buddy, and talk to your buddy until you hear the bell. Everyone will take turns being buddies.”

#### Trial 1

Step 1. Assign buddy pairs.

“You two can be Buddies this time.” ( ).

“And you two can be Buddies” . ( ).

Step 2. Assign pairs to activities.

“You two play here with these toys, and you two play here with these toys.”

Step 3. Give verbal prompt to each pair.

“Now, stay and play with your buddy, and talk to your buddy until you hear the bell.”

Step 4. Set timer for 4 minutes.

During this 4-minute interval, allow the children to move about from activity to activity or buddy to buddy; that is, don't remind them to “stay, play, and talk” to their assigned buddy.

When the bell sounds, start Trial 2.

#### Trial 2

Step 1. Assign new buddy pairs.

“OK, now we will play the buddy game again, but this time you two can be buddies  
( )

and you two can be buddies ( ).”

Step 2. Assign pairs to activities.

“You two play here with these toys, and you two play here with these toys.”

Step 3. Give verbal prompt to each pair.

“Stay and play with your buddy, and talk to your buddy until you hear the bell.”

Step 4. Set timer for 4 minutes.

During this 4-minute interval, allow the children to move about from activity to activity or buddy to buddy; that is, don't remind them to “stay, play, and talk” to their assigned buddy.

When the bell sounds, start Trial 3.

Trial 3

Step 1. Assign new buddy pairs.

“OK, now we will play the buddy game again, but this time you two can be buddies  
( )

and you two can be buddies ( ).”

Step 2. Assign pairs to activities.

“You two play here with these toys, and you two play here with these toys.”

Step 3. Give verbal prompt to each pair.

“Stay and play with your buddy, and talk to your buddy until you hear the bell.”

Step 4. Set timer for 4 minutes.

During this 4-minute interval, allow the children to move about from activity to activity

or buddy to buddy; that is, don't remind them to "stay, play, and talk" to their assigned buddy.

When the bell sounds, start Trial 4.

Trial 4

Step 1. Assign new buddy pairs.

"OK, now we will play the buddy game again, but this time you two can be buddies

( )

and you two can be buddies ( )."

Step 2. Assign pairs to activities.

"You two play here with these toys, and you two play here with these toys."

Step 3. Give verbal prompt to each pair.

"Now, stay and play with your buddy, and talk to your buddy until you hear the bell."

Step 4. Set timer for 4 minutes.

During this 4-minute interval, allow the children to move about from activity to activity or buddy to buddy; that is, don't remind them to "stay, play, and talk" to their assigned buddy.

When the bell sounds, start Trial 5.

Trial 5

Step 1. Assign new buddy pairs.

"OK, now we will play the buddy game again, but this time you two can be buddies

( )

and you two can be buddies ( )."

Step 2. Assign pairs to activities.

“You two play here with these toys, and you two play here with these toys.”

Step 3. Give verbal prompt to each pair.

“Stay and play with your buddy, and talk to your buddy until you hear the bell.”

Step 4. Set timer for 4 minutes.

During this 4-minute interval, allow the children to move about from activity to activity or buddy to buddy; that is, don't remind them to “stay, play, and talk” to their assigned buddy.

When the bell sounds, start Trial 6.

Trial 6

Step 1. Assign new buddy pairs.

“OK, now we will play the buddy game again, but this time you two can be buddies

( )

and you two can be buddies ( ).”

Step 2. Assign pairs to activities.

“You two play here with these toys, and you two play here with these toys.”

Step 3. Give verbal prompt to each pair.

“Stay and play with your buddy, and talk to your buddy until you hear the bell.”

Step 4. Set timer for 4 minutes.

During this 4-minute interval, allow the children to move about from activity to activity or buddy to buddy; that is, don't remind them to “stay, play, and talk” to their assigned buddy.

Step 5. End activity.

That's all the time we have to play the buddy game today. We will play again another day.

## Session 2 - Buddy Skills Instruction 1

The purpose of this session is to begin to teach the children to stay close to their assigned buddy and play with their buddy.

Introduction:

"Today we are going to talk about how to be a good buddy and then play the buddy game."

Step 1. Discuss how to be a good buddy.

"A buddy is someone who is a really good friend. Buddies like to sit together, play together, and talk together. Buddies play with the same toys. They share toys nicely. They help their buddy play too."

Step 2. Discuss what staying close to your buddy means. Emphasize not leaving your buddy.

"If your buddy is sitting down, you sit beside them. If your buddy is standing, you stand beside them. If your buddy moves, you follow your buddy. You always stay with your buddy. You don't leave your buddy to play somewhere else or play with someone else".

Step 3. Discuss how to start to play with your buddy.

"Begin by asking your buddy to play. Ask your buddy to play with something, like a puzzle or a book. If your buddy is already playing, ask if you can play too."

Step 4. Discuss playing with buddy rather than alone.

"Buddies play together with the same toy, or book, or puzzle. They don't play by themselves. They might play with a puzzle together, or look at a book together, or share crayons when they are colouring."

"Buddies help each other too. If you can't do something, your buddy can help you. Or if your buddy can't do something, you can help your buddy."

Step 5. Discuss the Stay & Play elements together.

"When I say 'stay and play' then you stay close to your buddy and play with your buddy. Suggest things to play and ask what your buddy would like to play. Play together with the same toy."

Step 6. Demonstrate "Stay and Play" with a child or possibly using puppets, or some other way that will get the attention of the children. Show the following:

When one buddy moves, so does the other buddy.

You can make several suggestions if your buddy does not play with you right away.

How to get your buddy interested in a toy or activity. E. g., "Look at this puzzle" or "Do you want to play with this toy?"

Playing together with the same toy (or book, puzzle, etc.).

Step 7. Give 3 practice trials "staying and playing". Assign children to different buddies for each practice trial.

#### Practice Trial 1

1. Assign buddy pairs.

"I am going to choose a buddy for you. Then I will ask you to stay with your buddy and play with your buddy until you hear the bell. Everyone will take turns being buddies."

"You two can be buddies this time." (Pair \_\_\_\_\_ with \_\_\_\_\_). "And you two can be Buddies." (Pair \_\_\_\_\_ with \_\_\_\_\_).

2. Assign pairs to activities.

"You two play here with these toys, and you two play here with these toys."

3. Give verbal prompt to each pair.

"Stay with your buddy and play with your buddy until you hear the bell sound"

4. Set the timer for 4 minutes.

Watch the children during this interval and remind them to stay and play with their buddies as necessary. "Remember to play with your buddy." Or "Remember to stay with your buddy". Suggest ways they can play together: e.g., "Why don't you work on this puzzle together, then do the other puzzle?" or "Look at the pictures in this book with your buddy."

5. Praise the children when the bell sounds.

"OK, you were good buddies this time!"

6. Review the buddy game.

Emphasize the step(s) that the children are having difficulty with.

"Let's go over the buddy game again. When I ask you to "stay and play" with your buddy, remember to stay close to your buddy and play with your buddy. Suggest things to play and ask what your buddy would like to play. Play together with the same toy (or book, etc.)."

Practice Trial 2

1. Assign buddy pairs.

"You two can be buddies this time." (Pair \_\_\_\_\_ with \_\_\_\_\_ ). "And you two can be Buddies." (Pair \_\_\_\_\_ with \_\_\_\_\_ ).

2. Assign pairs to activities.

"You two play here with these toys, and you two play here with these toys."

3. Give verbal prompt to each pair.

"Stay with your buddy and play with your buddy until you hear the bell sound"

4. Set the timer for 4 minutes.

Watch the children during this interval and remind them to stay and play with their buddies as necessary. "Remember to play with your buddy." Or "Remember to stay with your buddy". Suggest ways they can play together: e.g., "Why don't you work on this puzzle together, then do the other puzzle?" or "Look at the pictures in this book with your buddy."

5. Praise the children when the bell sounds.

"OK, you were good buddies that time!"

6. Review the buddy game.

Emphasize the step(s) that the children are having difficulty with.

"Let's go over the buddy game again. When I ask you to "stay and play" with your buddy, remember to stay close to your buddy and play with your buddy. Suggest things to play and ask what your buddy would like to play. Play together with the same toy (or book, etc.)."

### Practice Trial 3

1. Assign buddy pairs.

“You two can be buddies this time.” (Pair \_\_\_\_\_ with \_\_\_\_\_ ). “And you two can be Buddies.” (Pair \_\_\_\_\_ with \_\_\_\_\_ ).

2. Assign pairs to activities.

“You two play here with these toys, and you two play here with these toys.”

3. Give verbal prompt to each pair.

“Stay with your buddy and play with your buddy until you hear the bell sound”

4. Set the timer for 4 minutes.

Watch the children during this interval and remind them to stay and play with their buddies as necessary. "Remember to play with your buddy." Or "Remember to stay with your buddy". Suggest ways they can play together: e.g., "Why don't you work on this puzzle together, then do the other puzzle?" or "Look at the pictures in this book with your buddy."

5. Praise the children when the bell sounds.

“OK, you were good buddies this time!”

Step 5. End activity.

“That’s all the time we have to play the buddy game today. We will play again another day.”

### **Session 3 - Buddy Skills Instruction 2**

The purpose of this session is to encourage the children to communicate with each other by adding “talk” to “staying and playing”, and by asking the children to say what they will talk about with their buddy (forecasting) before they are prompted to stay, play, and talk.

Introduction:

“Today we are going to learn more about how to be a good buddy and then play a new buddy game.”

Step 1. Review the “stay and play” steps.

“Remember that to be a good buddy you stay close to your buddy. Buddies play together with the same toy, or book, or puzzle. They don’t play by themselves. They might play with a puzzle together, or look at a book together, or share crayons when they are colouring.”

“Buddies help each other too. If you can’t do something, your buddy can help you. Or if your buddy can’t do something, you can help your buddy.”

Step 2. Discuss “Talk” and nonverbal communication.

“Buddies talk to each other when they are playing. They talk about their toys or about other things.”

“Not all buddies talk with words, some will talk to you with actions. Some buddies will smile at you, or nod their heads yes or no. Some buddies will touch a toy or tap your arm. A good buddy watches to see what their buddy is saying with their actions.”

Step 3. Explain the “Stay, Play, and Talk” buddy game.

“In the new buddy game, you talk to your buddy while you are playing. Talk about what you're playing or what is going on around you. Try to get your buddy to talk to you by asking questions, such as ‘What are your favorite toys?’ Or, ask them what they like to play.”

“Even if your buddy can’t talk, you can still talk. Watch what your buddy says with actions. See if they are nodding “yes” or “no”, pointing to something, touching something, or smiling.”

“So, while staying and playing make sure you talk to your buddy.”

“Listen to your buddy too. If your buddy wants to play something, you do it too.”

Step 4. Demonstrate “Stay, Play and Talk” with a child, or puppets, or some other way that will get the attention of the children. Show the following:

Buddies stay close together.

You can make several suggestions if your buddy does not play with you right away.

How to get their buddy interested in a toy or activity. E. g., "Look at this puzzle" or "Do you want to play with this toy?"

Playing together with the same toy (or book, puzzle, etc.).

Talking to your buddy.

Step 5. Introduce "forecasting."

"I am going to ask you to tell me one thing you will talk about with your buddy before you start to play".

"You can tell me what you would like to talk about with your buddy. It can be about a toy or game, or something else that you would like to talk to your buddy about."

Give an example, such as "trucks", and then carry out a conversation about it.

Step 6. Review the stay, play, and talk buddy game.

"When I say "stay, play, and talk", you stay close to your buddy, play with your buddy, and talk to your buddy. To be a good buddy, you must stay close to your buddy. Play together with the same toy (or book, etc.). Talk to your buddy too. Try to remember what you told me you would like to talk about with your buddy and talk about it with your buddy."

Step 7. Give three practice trials "staying, playing, and talking".

Practice Trial 1

1. Assign Buddy pairs.

"I am going to choose a buddy for you. Then I will ask you to stay with your buddy, play with your buddy, and talk to your buddy until you hear the bell. Everyone will take turns being buddies."

"You two can be buddies this time." (Pair \_\_\_\_\_ with \_\_\_\_\_ ). "And you two can be Buddies." (Pair \_\_\_\_\_ with \_\_\_\_\_ ).

2. Assign pairs to activities.

"You two play here with these toys, and you two play here with these toys."

3. Ask each of the verbal children to forecast what they will talk about.

"Tell me something you are going to talk about with your buddy." (Give the child a suggestion, if they have difficulty with this request).

4. Give verbal prompt.

“Now, stay, play, and talk to your buddy until you hear the bell sound.”

Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary. Make suggestions if they are having difficulty playing together or talking.

5. Praise the children when the bell sounds.

“OK, you were good buddies this time!”

6. Review the buddy game.

Emphasize the step(s) that the children are having difficulty with.

“When I say "stay, play, and talk", you stay close to your buddy, play with your buddy, and talk to your buddy. To be a good buddy, you must stay close to your buddy. Play together with the same toy (or book, etc.). Talk to your buddy too. Try to remember what you told me you would like to talk about with your buddy and talk about it with your buddy.”

#### Practice Trial 2

1. Assign new buddy pairs.

“You two can be buddies this time.” (Pair \_\_\_\_\_ with \_\_\_\_\_). “And you two can be Buddies.” (Pair \_\_\_\_\_ with \_\_\_\_\_).

2. Assign pairs to activities.

“You two play here with these toys, and you two play here with these toys.”

3. Ask each of the verbal children to forecast what they will talk about.

“Tell me something you are going to talk about with your buddy.” (Give the child a suggestion, if they have difficulty with this request).

4. Give verbal prompt.

“Now, stay, play, and talk to your buddy until you hear the bell sound.”

Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary.

Make suggestions if they are having difficulty playing together or talking.

5. Praise the children when the bell sounds.

“OK, you were good buddies this time!”

6. Review the buddy game.

Emphasize the step(s) that the children are having difficulty with.

“When I say “stay, play, and talk”, you stay close to your buddy, play with your buddy, and talk to your buddy. To be a good buddy, you must stay close to your buddy. Play together with the same toy (or book, etc.). Talk to your buddy too. Try to remember what you told me you would like to talk about with your buddy and talk about it with your buddy.”

### Practice Trial 3

1. Assign new buddy pairs.

“You two can be buddies this time.” (Pair \_\_\_\_\_ with \_\_\_\_\_). “And you two can be Buddies.” (Pair \_\_\_\_\_ with \_\_\_\_\_).

2. Assign pairs to activities.

“You two play here with these toys, and you two play here with these toys.”

3. Ask each of the verbal children to forecast what they will talk about.

“Tell me something you are going to talk about with your buddy.” (Give the child a suggestion, if they have difficulty with this request).

4. Give verbal prompt.

“Now, stay, play, and talk to your buddy until you hear the bell sound.”

Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary.

Make suggestions if they are having difficulty playing together or talking.

5. Praise the children when the bell sounds.

“OK, you were good buddies this time!”

Step 5. End activity.

“That’s all the time we have to play the buddy game today. We will play again another day.”

### **Training Practice Sessions 1 & 2**

During practice sessions, the children will be given practice being buddies. Changes to the practice trial procedure from the second instruction session are: (a) more specific feedback to each pair of children at the end of each practice trial; (b) pairing the same children together for two consecutive practice trials to give them a chance to play with the same buddy following feedback; (c) we won’t use “forecasting”.

Introduction:

“Today we are going to see if you remember how to be a good buddy, and we are going to play the buddy game.”

Step 1. Review how to be a good buddy.

“Remember that to be a good buddy you stay close to your buddy. Buddies play together with the same toy, or book, or puzzle. They don’t play by themselves. They might play with a puzzle together, or look at a book together, or share crayons when they are colouring.”

“Buddies help each other too. If you can’t do something, your buddy can help you. Or if your buddy can’t do something, you can help your buddy.”

“Buddies talk to each other when they are playing. They talk about their toys or about other things.”

“Not all buddies talk with words, some will talk to you with actions. Some buddies will smile at you, or nod their heads yes or no. Some buddies will touch a toy or tap your arm. A good buddy watches to see what their buddy is saying with their actions.”

Step 2. Review the stay, play, and talk buddy game.

“Do you remember how to play the buddy game? When I say “stay, play, and talk”, you stay close to your buddy, play with your buddy, and talk to your buddy. To be a good buddy, you must stay close to your buddy. Play together with the same toy (or book, etc.). Talk to your buddy too.”

Step 3. Give six practice trials “staying, playing, and talking”.

#### Practice Trial 1

1. Assign Buddy pairs.

“I am going to choose a buddy for you. Then I will ask you to stay with your buddy, play with your buddy, and talk to your buddy until you hear the bell. Everyone will take turns being buddies.”

“You two can be buddies this time.” (Pair \_\_\_\_\_ with \_\_\_\_\_). “And you two can be Buddies.” (Pair \_\_\_\_\_ with \_\_\_\_\_).

2. Assign pairs to activities.

“You two play here with these toys, and you two play here with these toys.”

3. Give verbal prompt.

“Now, stay, play, and talk to your buddy until you hear the bell sound.”  
Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary. Make suggestions if they are having difficulty playing together or talking.

4. Give each pair of children feedback when the bell sounds.

Reinforce with praise if they are staying, playing and talking; e.g., “You two were good buddies this time. You were playing together and talking!”

Or

Point out missing buddy skills and give reminders, if they were not staying, playing, or talking; e.g., “You were not playing together this time. Remember to play with your buddy next time.” Or “You did not talk to your buddy. Remember to talk to your buddy next time.”

#### Practice Trial 2

1. Use the same buddy pairs as Trial 1.

“We are going to play the buddy game again with the same buddy as last time.”

2. Review the buddy game.

Emphasize the step(s) that were mentioned in feedback after the last trial.

“When I say “stay, play, and talk”, you stay close to your buddy, play with your buddy, and talk to your buddy. To be a good buddy, you must stay close to your buddy. Play together with the same toy (or book, etc.). Talk to your buddy too.

3. Give verbal prompt.

“Now, stay, play, and talk to your buddy until you hear the bell sound.”

Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary. Make suggestions if they are having difficulty playing together or talking.

4. Give each pair of children feedback when the bell sounds.

Reinforce with praise if they are staying, playing and talking; e.g., “You two were good buddies this time. You were playing together and talking!”

Or

Point out missing buddy skills and give reminders, if they were not staying, playing, or talking; e.g., “You were not playing together this time. Remember to play with your buddy next time.” Or “You did not talk to your buddy. Remember to talk to your buddy next time.”

### Practice Trial 3

1. Assign new Buddy pairs. “I am going to choose a buddy for you. Then I will ask you to stay with your buddy, play with your buddy, and talk to your buddy until you hear the bell. Everyone will take turns being buddies.”

“You two can be buddies this time.” (Pair \_\_\_\_\_ with \_\_\_\_\_). “And you two can be Buddies.” (Pair \_\_\_\_\_ with \_\_\_\_\_).

2. Assign pairs to activities.

“You two play here with these toys, and you two play here with these toys.”

3. Give verbal prompt.

“Now, stay, play, and talk to your buddy until you hear the bell sound.”

Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary. Make suggestions if they are having difficulty playing together or talking.

4. Give each pair of children feedback when the bell sounds.

Reinforce with praise if they are staying, playing and talking; e.g., “You two were good buddies this time. You were playing together and talking!”

Or

Point out missing buddy skills and give reminders, if they were not staying, playing, or talking; e.g., “You were not playing together this time. Remember to play with your buddy next time.” Or “You did not talk to your buddy. Remember to talk to your buddy next time.”

#### Practice Trial 4

1. Use the same buddy pairs as Trial 3.

“We are going to play the buddy game again with the same buddy as last time.”

2. Review the buddy game.

Emphasize the step(s) that were mentioned in feedback after the last trial.

“When I say “stay, play, and talk”, you stay close to your buddy, play with your buddy, and talk to your buddy. To be a good buddy, you must stay close to your buddy. Play together with the same toy (or book, etc.). Talk to your buddy too.”

3. Give verbal prompt.

“Now, stay, play, and talk to your buddy until you hear the bell sound.”

Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary. Make suggestions if they are having difficulty playing together or talking.

4. Give each pair of children feedback when the bell sounds.

Reinforce with praise if they are staying, playing and talking; e.g., "You two were good buddies this time. You were playing together and talking!"

Or

Point out missing buddy skills and give reminders, if they were not staying, playing, or talking; e.g., "You were not playing together this time. Remember to play with your buddy next time." Or "You did not talk to your buddy. Remember to talk to your buddy next time."

### Practice Trial 5

1. Assign new Buddy pairs.

"I am going to choose a buddy for you. Then I will ask you to stay with your buddy, play with your buddy, and talk to your buddy until you hear the bell. Everyone will take turns being buddies."

"You two can be buddies this time." (Pair \_\_\_\_\_ with \_\_\_\_\_). "And you two can be Buddies." (Pair \_\_\_\_\_ with \_\_\_\_\_).

2. Assign pairs to activities.

"You two play here with these toys, and you two play here with these toys."

3. Give verbal prompt.

"Now, stay, play, and talk to your buddy until you hear the bell sound."

Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary. Make suggestions if they are having difficulty playing together or talking.

4. Give each pair of children feedback when the bell sounds.

Reinforce with praise if they are staying, playing and talking; e.g., "You two were good buddies this time. You were playing together and talking!"

Or

Point out missing buddy skills and give reminders, if they were not staying, playing, or talking; e.g., "You were not playing together this time. Remember to play with your buddy next time." Or "You did not talk to your buddy. Remember to talk to your buddy

next time.”

### Practice Trial 6

1. Use the same buddy pairs as Trial 1.

“We are going to play the buddy game again with the same buddy as last time.”

2. Review the buddy game.

Emphasize the step(s) that were mentioned in feedback after the last trial.

“When I say “stay, play, and talk”, you stay close to your buddy, play with your buddy, and talk to your buddy. To be a good buddy, you must stay close to your buddy. Play together with the same toy (or book, etc.). Talk to your buddy too.

3. Give verbal prompt.

“Now, stay, play, and talk to your buddy until you hear the bell sound.”

Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary. Make suggestions if they are having difficulty playing together or talking.

4. Give each pair of children feedback when the bell sounds.

Reinforce with praise if they are staying, playing and talking; e.g., “You two were good buddies this time. You were playing together and talking!”

Or

Point out missing buddy skills and give reminders, if they were not staying, playing, or talking; e.g., “You were not playing together this time. Remember to play with your buddy next time.” Or “You did not talk to your buddy. Remember to talk to your buddy next time.”

Step 4. End activity. “That’s all the time we have to play the buddy game today. We will play again another day.”

### Posttest Sessions 1 and 2

The purpose of the Posttest is to find out if the children “stay, play, and talk” when prompted without being reminded during each trial.

#### Introduction

“Today we are going to play the buddy game. A buddy is someone who is a really good friend. Buddies like to sit together, play together, and talk together.”

“I am going to choose a buddy for you. Then I will ask you to stay with your buddy, play with your buddy, and talk to your buddy until you hear the bell. Everyone will take turns being buddies.”

“I want you to show me you can be good buddies without being reminded.”

#### Trial 1

Step 1. Assign buddy pairs.

“You two can be Buddies this time.”

“And you two can be Buddies” .

Step 2. Assign pairs to activities.

“You two play here with these toys, and you two play here with these toys.”

Step 3. Give verbal prompt to each pair.

“Now, stay and play with your buddy, and talk to your buddy until you hear the bell.”

Step 4. Set timer for 4 minutes.

During this 4-minute interval, allow the children to move about from activity to activity or buddy to buddy; that is, don't remind them to “stay, play, and talk” to their assigned buddy.

When the bell sounds, start Trial 2.

#### Trial 2

Step 1. Assign new buddy pairs.

“OK, now we will play the buddy game again, but this time you two can be buddies

and you two can be buddies.”

Step 2. Assign pairs to activities.

“You two play here with these toys, and you two play here with these toys.”

Step 3. Give verbal prompt to each pair.

“Stay and play with your buddy, and talk to your buddy until you hear the bell.”

Step 4. Set timer for 4 minutes.

During this 4-minute interval, allow the children to move about from activity to activity or buddy to buddy; that is, don't remind them to “stay, play, and talk” to their assigned buddy.

When the bell sounds, start Trial 3.

Trial 3

Step 1. Assign new buddy pairs.

“OK, now we will play the buddy game again, but this time you two can be buddies and you two can be buddies.”

Step 2. Assign pairs to activities.

“You two play here with these toys, and you two play here with these toys.”

Step 3. Give verbal prompt to each pair.

“Stay and play with your buddy, and talk to your buddy until you hear the bell.”

Step 4. Set timer for 4 minutes.

During this 4-minute interval, allow the children to move about from activity to activity or buddy to buddy; that is, don't remind them to “stay, play, and talk” to their assigned buddy.

When the bell sounds, start Trial 4.

Trial 4

Step 1. Assign new buddy pairs.

“OK, now we will play the buddy game again, but this time you two can be buddies and you two can be buddies.”

Step 2. Assign pairs to activities.

“You two play here with these toys, and you two play here with these toys.”

Step 3. Give verbal prompt to each pair.

“Now, stay and play with your buddy, and talk to your buddy until you hear the bell.”

Step 4. Set timer for 4 minutes.

During this 4-minute interval, allow the children to move about from activity to activity or buddy to buddy; that is, don't remind them to “stay, play, and talk” to their assigned buddy.

When the bell sounds, start Trial 5.

Trial 5

Step 1. Assign new buddy pairs.

“OK, now we will play the buddy game again, but this time you two can be buddies and you two can be buddies.”

Step 2. Assign pairs to activities.

“You two play here with these toys, and you two play here with these toys.”

Step 3. Give verbal prompt to each pair.

“Stay and play with your buddy, and talk to your buddy until you hear the bell.”

Step 4. Set timer for 4 minutes.

During this 4-minute interval, allow the children to move about from activity to activity or buddy to buddy; that is, don't remind them to “stay, play, and talk” to their assigned buddy.

When the bell sounds, start Trial 6.

## Trial 6

Step 1. Assign new buddy pairs.

“OK, now we will play the buddy game again, but this time you two can be buddies and you two can be buddies.”

Step 2. Assign pairs to activities.

“You two play here with these toys, and you two play here with these toys.”

Step 3. Give verbal prompt to each pair.

“Stay and play with your buddy, and talk to your buddy until you hear the bell.”

Step 4. Set timer for 4 minutes.

During this 4-minute interval, allow the children to move about from activity to activity or buddy to buddy; that is, don't remind them to “stay, play, and talk” to their assigned buddy.

Step 5. End activity.

That's all the time we have to play the buddy game today. We will play again another day.

### **Practice Sessions 3 &4**

During these sessions, the children will be given practice playing with their buddy while sharing a toy or book. (Note: Each pair of children was given one toy to play with at the beginning of each trial, but they were given another toy from the set if they asked for one during the trial.)

Introduction:

“Today we are going to see if you remember how to be a good buddy, and we are going to play a new buddy game.”

Step 1. Review how to be a good buddy.

“Remember that to be a good buddy you stay close to your buddy. Buddies play together with the same toy, or book, or puzzle. They don't play by themselves. They might play with a puzzle together, or look at a book together, or share crayons when they are colouring.”

“Buddies help each other too. If you can’t do something, your buddy can help you. Or if your buddy can’t do something, you can help your buddy.”

“Buddies talk to each other when they are playing. They talk about their toys or about other things.”

“Not all buddies talk with words, some will talk to you with actions. Some buddies will smile at you, or nod their heads yes or no. Some buddies will touch a toy or tap your arm. A good buddy watches to see what their buddy is saying with their actions.”

Step 2. Review the stay, play, and talk buddy game.

“We are going to play the buddy game a different way today. I am going to give you just one toy or book or puzzle. You show me how you can play with the same toy or book with your buddy. You can take turns playing with it. You can help your buddy play with it, or you can play together with it.”

“Remember, when I say “stay, play, and talk”, you stay close to your buddy, play with your buddy, and talk to your buddy. Play together with the same toy (or book, etc.). Talk to your buddy too.”

Step 3. Give six practice trials “staying, playing, and talking”.

#### Practice Trial 1

1. Assign Buddy pairs.

“I am going to choose a buddy for you. Then I will ask you to stay with your buddy, play with your buddy, and talk to your buddy until you hear the bell. Everyone will take turns being buddies.”

“You two can be buddies this time.” (Pair \_\_\_\_\_ with \_\_\_\_\_ ). “And you two can be Buddies.” (Pair \_\_\_\_\_ with \_\_\_\_\_ ).

2. Assign pairs to activities.

“You two play here with this toy (book, or puzzle), and you two play here with this toy (book, or puzzle).”

3. Give verbal prompt.

“Now, play with your buddy, and talk to your buddy until you hear the bell sound.”

Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary. Make suggestions if they are having

difficulty playing together or talking.

4. Give each pair of children feedback when the bell sounds.

Reinforce with praise if they are staying, playing and talking; e.g., "You two were good buddies this time. You were playing together and talking!"

Or

Point out missing buddy skills and give reminders, if they were not staying, playing, or talking; e.g., "You were not playing together this time. Remember to play with your buddy next time." Or "You did not talk to your buddy. Remember to talk to your buddy next time."

#### Practice Trial 2

1. Use the same buddy pairs as Trial 1.

"We are going to play the buddy game again with the same buddy as last time."

2. Review the buddy game.

Emphasize the step(s) that were mentioned in feedback after the last trial.

"When I say "stay, play, and talk", you stay close to your buddy, play with your buddy, and talk to your buddy. To be a good buddy, you must stay close to your buddy. Play together with the same toy (or book, etc.). Talk to your buddy too.

3. Give verbal prompt.

"You two play here with this toy (book, or puzzle), and you two play here with this toy (book, or puzzle)."

Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary. Make suggestions if they are having difficulty playing together or talking.

4. Give each pair of children feedback when the bell sounds.

Reinforce with praise if they are staying, playing and talking; e.g., "You two were good buddies this time. You were playing together and talking!"

Or

Point out missing buddy skills and give reminders, if they were not staying, playing, or talking; e.g., “You were not playing together this time. Remember to play with your buddy next time.” Or “You did not talk to your buddy. Remember to talk to your buddy next time.”

### Practice Trial 3

#### 1. Assign new Buddy pairs.

“I am going to choose a buddy for you. Then I will ask you to stay with your buddy, play with your buddy, and talk to your buddy until you hear the bell. Everyone will take turns being buddies.”

“You two can be buddies this time.” (Pair \_\_\_\_\_ with \_\_\_\_\_). “And you two can be Buddies.” (Pair \_\_\_\_\_ with \_\_\_\_\_).

#### 2. Assign pairs to activities.

“You two play here with this toy (book, or puzzle), and you two play here with this toy (book, or puzzle).”

#### 3. Give verbal prompt.

“You two play here with this toy, and you two play here with this toy.”

Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary. Make suggestions if they are having difficulty playing together or talking.

#### 4. Give each pair of children feedback when the bell sounds.

Reinforce with praise if they are staying, playing and talking; e.g., “You two were good buddies this time. You were playing together and talking!”

Or

Point out missing buddy skills and give reminders, if they were not staying, playing, or talking; e.g., “You were not playing together this time. Remember to play with your buddy next time.” Or “You did not talk to your buddy. Remember to talk to your buddy next time.”

### Practice Trial 4

#### 1. Use the same buddy pairs as Trial 3.

“We are going to play the buddy game again with the same buddy as last time.”

2. Review the buddy game.

Emphasize the step(s) that were mentioned in feedback after the last trial.

“When I say “stay, play, and talk”, you stay close to your buddy, play with your buddy, and talk to your buddy. To be a good buddy, you must stay close to your buddy. Play together with the same toy (or book, etc.). Talk to your buddy too.”

3. Give verbal prompt.

“You two play here with this toy (book, or puzzle), and you two play here with this toy (book, or puzzle).”

Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary. Make suggestions if they are having difficulty playing together or talking.

4. Give each pair of children feedback when the bell sounds.

Reinforce with praise if they are staying, playing and talking; e.g., “You two were good buddies this time. You were playing together and talking!”

Or

Point out missing buddy skills and give reminders, if they were not staying, playing, or talking; e.g., “You were not playing together this time. Remember to play with your buddy next time.” Or “You did not talk to your buddy. Remember to talk to your buddy next time.”

Practice Trial 5

1. Assign new Buddy pairs.

“I am going to choose a buddy for you. Then I will ask you to stay with your buddy, play with your buddy, and talk to your buddy until you hear the bell. Everyone will take turns being buddies.”

“You two can be buddies this time.” (Pair \_\_\_\_\_ with \_\_\_\_\_ ). “And you two can be Buddies.” (Pair \_\_\_\_\_ with \_\_\_\_\_ ).

2. Assign pairs to activities.

“You two play here with this toy (book, or puzzle), and you two play here with this toy

(book, or puzzle).”

3. Give verbal prompt.

“Now, stay, play, and talk to your buddy until you hear the bell sound.”

Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary. Make suggestions if they are having difficulty playing together or talking.

4. Give each pair of children feedback when the bell sounds.

Reinforce with praise if they are staying, playing and talking; e.g., “You two were good buddies this time. You were playing together and talking!”

Or

Point out missing buddy skills and give reminders, if they were not staying, playing, or talking; e.g., “You were not playing together this time. Remember to play with your buddy next time.” Or “You did not talk to your buddy. Remember to talk to your buddy next time.”

#### Practice Trial 6

1. Use the same buddy pairs as Trial 1.

“We are going to play the buddy game again with the same buddy as last time.”

2. Review the buddy game.

Emphasize the step(s) that were mentioned in feedback after the last trial.

“When I say “stay, play, and talk”, you stay close to your buddy, play with your buddy, and talk to your buddy. To be a good buddy, you must stay close to your buddy. Play together with the same toy (or book, etc.). Talk to your buddy too.”

3. Give verbal prompt.

“You two play here with this toy, and you two play here with this toy.”

Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary. Make suggestions if they are having difficulty playing together or talking.

4. Give each pair of children feedback when the bell sounds. Reinforce with praise if they are staying, playing and talking; e.g., "You two were good buddies this time. You were playing together and talking!"

Or

Point out missing buddy skills and give reminders, if they were not staying, playing, or talking; e.g., "You were not playing together this time. Remember to play with your buddy next time." Or "You did not talk to your buddy. Remember to talk to your buddy next time."

Step 4. End activity. "That's all the time we have to play the buddy game today. We will play again another day."

### **Day Care Practice Sessions**

During these sessions, the children will be given practice playing with their buddy while sharing a toy, puzzle or book in the day care play area. Give each pair of children one toy to play with at the beginning of each trial. Encourage them to play with this toy with their buddy throughout the 4 minutes.

Introduction: "Today we are going to see if you remember how to be a good buddy, and we are going to play the buddy game."

Step 1. Review how to be a good buddy.

"Remember that to be a good buddy you stay close to your buddy and play with your buddy. Buddies play together with the same toy, or book, or puzzle. They don't play by themselves. They might play with a puzzle together, or look at a book together, or share crayons when they are colouring."

"Buddies help each other too. If you can't do something, your buddy can help you. Or if your buddy can't do something, you can help your buddy."

"Buddies talk to each other when they are playing. They talk about their toys or about other things."

"Not all buddies talk with words, some will talk to you with actions. Some buddies will smile at you, or nod their heads yes or no. Some buddies will touch a toy or tap your arm. A good buddy watches to see what their buddy is saying with their actions."

Step 2. Review the stay, play, and talk buddy game.

“I am going to give you just one toy. You show me how you can play with this toy with your buddy until the bell sounds. You can take turns playing with it. You can help your buddy play with it, or you can play together with it.”

“Remember, when I say "stay, play, and talk", you stay close to your buddy, play with your buddy, and talk to your buddy. Play together with the same toy (or book, etc.). Talk to your buddy too.”

Step 3. Give six practice trials “staying, playing, and talking”.

#### Practice Trial 1

1. Assign Buddy pairs. “I am going to choose a buddy for you. Then I will ask you to stay with your buddy, play with your buddy, and talk to your buddy until you hear the bell. Everyone will take turns being buddies.”

“You two can be buddies this time.” (Pair \_\_\_\_\_ with \_\_\_\_\_). “And you two can be Buddies.” (Pair \_\_\_\_\_ with \_\_\_\_\_).

2. Assign pairs to activities.

“You two play here with this toy (book, or puzzle), and you two play here with this toy (book, or puzzle).”

3. Give verbal prompt.

“Now, play with your buddy, and talk to your buddy until you hear the bell sound.”

Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary. Make suggestions if they are having difficulty playing together or talking.

4. Give each pair of children feedback when the bell sounds.

Reinforce with praise if they are staying, playing and talking; e.g., “You two were good buddies this time. You were playing together and talking!”

Or

Point out missing buddy skills and give reminders, if they were not staying, playing, or

talking; e.g., "You were not playing together this time. Remember to play with your buddy next time." Or "You did not talk to your buddy. Remember to talk to your buddy next time."

### Practice Trial 2

1. Use the same buddy pairs as Trial 1.

"We are going to play the buddy game again with the same buddy as last time."

2. Review the buddy game.

Emphasize the step(s) that were mentioned in feedback after the last trial.

"When I say "stay, play, and talk", you stay close to your buddy, play with your buddy, and talk to your buddy. To be a good buddy, you must stay close to your buddy. Play together with the same toy (or book, etc.). Talk to your buddy too."

Give each pair of children one toy, book, or puzzle.

3. Give verbal prompt.

"Now, play with your buddy, and talk to your buddy until you hear the bell sound."

Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary. Make suggestions if they are having difficulty playing together or talking.

4. Give each pair of children feedback when the bell sounds.

Reinforce with praise if they are staying, playing and talking; e.g., "You two were good buddies this time. You were playing together and talking!"

Or

Point out missing buddy skills and give reminders, if they were not staying, playing, or talking; e.g., "You were not playing together this time. Remember to play with your buddy next time." Or "You did not talk to your buddy. Remember to talk to your buddy next time."

### Practice Trial 3

1. Assign new Buddy pairs.

"I am going to choose a new buddy for you. You two can be buddies this time." (Pair \_\_\_\_\_ with \_\_\_\_\_). And you two can be Buddies." (Pair \_\_\_\_\_ with \_\_\_\_\_)

\_\_\_\_\_ ).

2. Assign pairs to activities.

“You two play here with this toy (book, or puzzle), and you two play here with this toy (book, or puzzle).”

3. Give verbal prompt.

“Now, play with your buddy, and talk to your buddy until you hear the bell sound.”

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary. Make suggestions if they are having difficulty playing together or talking.

4. Give each pair of children feedback when the bell sounds.

Reinforce with praise if they are staying, playing and talking; e.g., “You two were good buddies this time. You were playing together and talking!”

Or

Point out missing buddy skills and give reminders, if they were not staying, playing, or talking; e.g., “You were not playing together this time. Remember to play with your buddy next time.” Or “You did not talk to your buddy. Remember to talk to your buddy next time.”

#### Practice Trial 4

1. Use the same buddy pairs as Trial 3. “We are going to play the buddy game again with the same buddy as last time.”

2. Review the buddy game.

Emphasize the step(s) that were mentioned in feedback after the last trial.

“When I say “stay, play, and talk”, you stay close to your buddy, play with your buddy, and talk to your buddy. To be a good buddy, you must stay close to your buddy. Play together with the same toy (or book, etc.). Talk to your buddy too.”

Give each pair of children one toy, book, or puzzle.

3. Give verbal prompt.

“Now, play with your buddy, and talk to your buddy until you hear the bell sound.”

Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary. Make suggestions if they are having difficulty playing together or talking.

4. Give each pair of children feedback when the bell sounds.

Reinforce with praise if they are staying, playing and talking; e.g., “You two were good buddies this time. You were playing together and talking!”

Or

Point out missing buddy skills and give reminders, if they were not staying, playing, or talking; e.g., “You were not playing together this time. Remember to play with your buddy next time.” Or “You did not talk to your buddy. Remember to talk to your buddy next time.”

#### Practice Trial 5

1. Assign new Buddy pairs.

“I am going to choose a new buddy for you. You two can be buddies this time. (Pair \_\_\_\_\_ with \_\_\_\_\_). And you two can be Buddies.” (Pair \_\_\_\_\_ with \_\_\_\_\_).

2. Assign pairs to activities.

“You two play here with this toy (book, or puzzle), and you two play here with this toy (book, or puzzle).”

3. Give verbal prompt.

“Now, stay, play, and talk to your buddy until you hear the bell sound.”

Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary. Make suggestions if they are having difficulty playing together or talking.

4. Give each pair of children feedback when the bell sounds.

Reinforce with praise if they are staying, playing and talking; e.g., "You two were good buddies this time. You were playing together and talking!"

Or

Point out missing buddy skills and give reminders, if they were not staying, playing, or talking; e.g., "You were not playing together this time. Remember to play with your buddy next time." Or "You did not talk to your buddy. Remember to talk to your buddy next time."

### Practice Trial 6

1. Use the same buddy pairs as Trial 5.

"We are going to play the buddy game again with the same buddy as last time."

2. Review the buddy game.

Emphasize the step(s) that were mentioned in feedback after the last trial.

"When I say "stay, play, and talk", you stay close to your buddy, play with your buddy, and talk to your buddy. To be a good buddy, you must stay close to your buddy. Play together with the same toy (or book, etc.). Talk to your buddy too."

Give each pair of children one toy, book, or puzzle.

3. Give verbal prompt.

"Now, play with your buddy, and talk to your buddy until you hear the bell sound."

Set timer for 4 minutes.

During this interval, observe the children to see if they are staying, playing, and talking. Remind them to stay, play, or talk as necessary. Make suggestions if they are having difficulty playing together or talking.

4. Give each pair of children feedback when the bell sounds.

Reinforce with praise if they are staying, playing and talking; e.g., "You two were good buddies this time. You were playing together and talking!"

Or

Point out missing buddy skills and give reminders, if they were not staying, playing, or talking; e.g., "You were not playing together this time. Remember to play with your buddy next time." Or "You did not talk to your buddy. Remember to talk to your buddy

next time.”

Step 4. End activity. “That’s all the time we have to play the buddy game today. We will play again another day.”

### **Posttest Session in Day Care (Posttest 3)**

The purpose of the Post-test is to find out if the children “play and talk” without being reminded during each trial. If necessary, remind them to “stay” at the table with their buddy.

#### **Introduction**

“Today we are going to play the buddy game. A buddy is someone who is a really good friend. Buddies like to sit together, play together, and talk together.”

“I am going to choose a buddy for you. Then I will ask you to stay with your buddy, play with your buddy, and talk to your buddy until you hear the bell. Everyone will take turns being buddies.”

“I want you to show me you can be good buddies without being reminded.”

#### **Trial 1**

Step 1. Assign buddy pairs.

“You two can be Buddies this time, and you two can be Buddies.”

Step 2. Assign pairs to activities.

“You two play with these toys, and you two play with these toys.”

Step 3. Give verbal prompt to each pair.

“Now, play with your buddy and talk to your buddy until you hear the bell sound.”

Step 4. Set timer for 4 minutes.

During this 4-minute interval, remind them to “stay” with their buddy, but don’t remind them to “play and talk” with their buddy.

When the bell sounds, start Trial 2.

## Trial 2

1. Use the same buddy pairs as Trial 1.

“We are going to play the buddy game again with the same buddy as last time.”

Step 2. Assign pairs to activities.

“You two play with these toys, and you two play with these toys.”

Step 3. Give verbal prompt to each pair.

“Now, play with your buddy, and talk to your buddy until you hear the bell sound.”

Step 4. Set timer for 4 minutes.

During this 4-minute interval, remind them to “stay” with their buddy, but don’t remind them to “play and talk” with their buddy.

When the bell sounds, start Trial 3.

## Trial 3

Step 1. Assign new buddy pairs.

“OK, now we will play the buddy game again, but this time you two can be buddies and you two can be buddies.”

Step 2. Assign pairs to activities.

“You two play here with these toys, and you two play here with these toys.”

Step 3. Give verbal prompt to each pair.

“Now, play with your buddy, and talk to your buddy until you hear the bell sound.”

Step 4. Set timer for 4 minutes.

During this 4-minute interval, remind them to “stay” with their buddy, but don’t remind them to “play and talk” with their buddy.

When the bell sounds, start Trial 4.

## Trial 4

1. Use the same buddy pairs as Trial 3.

“We are going to play the buddy game again with the same buddy as last time.”

Step 2. Assign pairs to activities.

“You two play here with these toys, and you two play here with these toys.”

Step 3. Give verbal prompt to each pair.

“Now, play with your buddy, and talk to your buddy until you hear the bell sound.”

Step 4. Set timer for 4 minutes.

During this 4-minute interval, remind them to “stay” with their buddy, but don’t remind them to “play and talk” with their buddy.

When the bell sounds, start Trial 5.

Trial 5

Step 1. Assign new buddy pairs.

“OK, now we will play the buddy game again, but this time you two can be buddies and you two can be buddies.”

Step 2. Assign pairs to activities.

“You two play here with these toys, and you two play here with these toys.”

Step 3. Give verbal prompt to each pair.

“Now, play with your buddy, and talk to your buddy until you hear the bell sound.”

Step 4. Set timer for 4 minutes.

During this 4-minute interval, remind them to “stay” with their buddy, but don’t remind them to “play and talk” with their buddy.

When the bell sounds, start Trial 6.

Trial 6

1. Use the same buddy pairs as Trial 5.

“We are going to play the buddy game again with the same buddy as last time.”

Step 2. Assign pairs to activities.

“You two play with these toys, and you two play with these toys.”

Step 3. Give verbal prompt to each pair.

“Now, play with your buddy, and talk to your buddy until you hear the bell sound.”

Step 4. Set timer for 4 minutes.

During this 4-minute interval, remind them to “stay” with their buddy, but don’t remind them to “play and talk” with their buddy.

Step 5. End activity.

That’s all the time we have to play the buddy game today. We will play again another day.

## Appendix E

**Buddy Skills Program Evaluation**

Please complete this questionnaire to assist us in evaluating the "Buddy Skills" game. Do not put your name on this questionnaire.

Please omit any questions you do not wish to answer.

**Section A:**

Circle the numbers that coincide with how acceptable for use in the daycare you found each component of the Buddy Skills program. Acceptability refers to how much you feel that the particular procedure fits your approach to teaching social interaction skills to young children.

a = unacceptable,

b = acceptable under certain conditions

c = acceptable under most conditions

d = completely acceptable.

- |  |   |   |   |   |
|--|---|---|---|---|
| 1. Arranging the children in buddy pairs is                      | a | b | c | d |
| 2. Prompting the two children to "stay, play, and talk" is       | a | b | c | d |
| 3. Selecting toys for children to play with during buddy game is | a | b | c | d |
| 4. Giving praise or instructional feedback is                    | a | b | c | d |
| 5. Pairing children with new buddies is                          | a | b | c | d |
| 6. Including four children in Buddy Game is                      | a | b | c | d |
| 7. Overall the Buddy Game is                                     | a | b | c | d |

Circle the numbers that coincide with how feasible for use in the daycare you found each component of the Buddy Game. Feasibility refers to your ability to use the Buddy Game, given your current resources (e.g., time, materials, space, training).

a = never feasible to use in this daycare program.

b = feasible to use on infrequent occasions

c = feasible to use some of the time (i.e., 50% to 70% of the days)

d = feasible to use nearly all of the time (i.e., 75% to 100% of the days).

- |   |   |   |   |   |
|---|---|---|---|---|
| 8. Arranging the children in buddy pairs is                       | a | b | c | d |
| 9. Prompting the two children to "stay, play, and talk" is        | a | b | c | d |
| 10. Selecting toys for children to play with during buddy game is | a | b | c | d |
| 11. Giving praise or instructional feedback is                    | a | b | c | d |
| 12. Pairing children with new buddies is                          | a | b | c | d |
| 13. Including four children in Buddy Game is                      | a | b | c | d |

14. Overall the Buddy Game is a b c d

### Section B: General Questions

Rate your agreement with the statements below using the following scale:

a = strongly disagree, b = disagree, c = neutral, d = agree, e = strongly agree

1. The Buddy Game was effective for increasing communications between children with and without disabilities. a b c d e

2. The Buddy Game was effective for encouraging play between children with and without disabilities. a b c d e

3. The Buddy Game was easily implemented. a b c d e

4. We should include the Buddy Game in our daycare program. a b c d e

5. The Buddy Game intervention was not practical for a daycare setting. a b c d e

### Section C: Training Sessions

Answer the questions in this section if you conducted "stay, play, and talk" teaching sessions.

How *acceptable* for use in the daycare and how *feasible* for use in the daycare did you find the Buddy Skills training program? (See Section A above for an explanation of acceptability and feasibility.)

Circle the numbers that coincide with your opinions, as described by the descriptions for each number in Section A above.

	<b>Acceptability</b>	<b>Feasibility</b>
1. Describing how to be a good buddy to children.	a b c d	a b c d
2. Teaching about non-verbal communication.	a b c d	a b c d
3. Demonstrating the stay, play and talk strategies.	a b c d	a b c d
4. Teaching children to "forecast" what they will talk about.	a b c d	a b c d
5. Giving practice trials to pairs of children.	a b c d	a b c d

6. Teaching groups of four children.

a b c d

a b c d

*Thank you for your assistance with this evaluation!*