DEVELOPING SOCIAL PLAY BETWEEN

HANDICAPPED AND NONHANDICAPPED PRESCHOOL CHILDREN

by

Dani Jo Hooper

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MASTER'S THESIS

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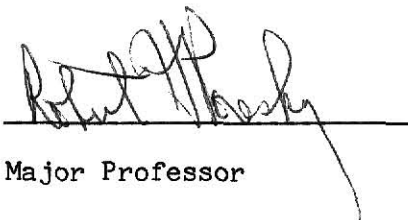requirements for the degree

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INTRODUCTION

Developing effective techniques to increase the amount of social interaction between handicapped and nonhandicapped preschool children is a recent concern of researchers. Reinforcing positive social interactions and structuring the physical environment can increase social interaction between handicapped and nonhandicapped preschoolers (Devoney, Guralnick and Rubin, 1974; Guralnick, 1976; Strain, Shores and Kerr, 1976; Strain, Shores and Timm, 1977; and Strain and Timm, 1974). The effects of reinforcing positive social interactions and structuring the physical environment or use of environment structure, through the use of structured lesson plans and activites in the child's natural free play environment to increase positive social interactions have not been well demonstrated. This study analyzes the effects of a structured lesson and teacher in-service program to encourage increased social interaction among preschool handicapped children and their peers in a program for developmentally delayed children.

REVIEW OF LITERATURE

Mainstreaming, including handicapped and nonhandicapped children in the same classroom, is a recent trend in education to facilitate handicapped children's development. The development of socially appropriate behaviors along with developing learning skills are primary educational goals. A goal of mainstreamed programs is to give the handicapped child a more normalized social learning experience and the occasion to learn from observing nonhandicapped children. However, research has shown that simply placing handicapped and nonhandicapped children together provides little cross group positive interaction, imitation, or learning from the observation of nonhandicapped children (Apolloni, Cooke and Cooke, 1977; Cooke, Apolloni and Cooke, 1977; Devoney et al., 1974; Guralnick and Kravik, 1973; Haring, Hayden and Allen, 1971; Peck, Apolloni, Cooke and Raver, 1978; Snyder, Apolloni, and Cooke, 1977; and Strain et al., 1974). Children prefer to play with children at the same developmental level, which further limits the occurrence of cross group interaction (Cooke et al., 1978; Peck et al., 1978; and Raver, Cooke and Apolloni, 1978).

Peterson and Haralick (1977) examined how often handicapped and nonhandicapped peers chose each other as playmates, at what interaction level they participated, and what, if any, sex differences were involved. They observed eight handicapped children and five nonhandicapped preschool children during non-isolate free play time. Nonhandicapped children played only with nonhandicapped peers more frequently than they played with handicapped children even though there were twice as many handicapped children. Parallel and cooperative play were both

more likely to occur when nonhandicapped rather than handicapped children were the available playmates. The play of the nonhandicapped children with each other was almost 1.5 times more likely to be cooperative than was play with handicapped peers. Nonhandicapped boys appeared to be more likely than were the girls to play cooperatively when handicapped children were the only playmates available to them. Although the results suggest relatively little discrimination by the nonhandicapped children in the sense of exclusion or rejection of their handicapped classmates, a much lower level of play was found with handicapped than with nonhandicapped peers. Thus, unless specific curriculum adjustments are made in integrated preschool programs, we may find that integrating handicapped and nonhandicapped preschoolers together does not by itself lead to cooperative play interaction.

Special teaching is necessary to facilitate cross peer interaction (Apolloni et al., 1977; Cooke et al., 1977; Guralnick et al., 1976; Raver et al., 1978; Strain et al., 1977; Wahler, 1967). In the last decade, studies used adult-directed modifications to change children's social behavior in the classroom. However, adult-implemented reinforcement programs pose numerous problems. First, they require a large amount of time from an adult. A second liability is the lack of consistency in programming when the child moves across educational settings. The third difficulty involves the child who displays deviant social behavior only when he is out of the teacher's view. A related difficulty is that if punishment is utilized, its effects last only when the punishing social agent is present (Strain, Cooke and Apolloni, 1976). Because of these problems there appears to be a growing rationale supporting the use of peers to change children's social behaviors.

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A variety of peer programming tactics are now being used to successfully change children's social behaviors. Peer behavior modification strategies may take several forms: modeling; peer reinforcement strategies; cooperative programming arrangements; or desensitization tactics (Strain et al., 1976). One way to establish a nonhandicapped peer as a behavioral model is to reinforce the nonhandicapped peer in the presence of the handicapped subject (Apolloni et al., 1977). Peer reinforcement strategies used in the form of peer training sessions are geared to teaching the peer either to reinforce or ignore the behavior of the target child (Apolloni et al., 1977). Cooperative programming arrangements rely on contingent rewards to both target children and peers for reciprocal behavior changes (Strain et al., 1974). Desensitization tactics can be used to decrease negative social-emotional behavior by active involvement of peers to stimulate peer interaction (Strain et al., 1976).

Researchers have used peer programming tactics alone or in different combinations to produce positive social interaction. Recently they have used programming tactics combined with peer training, structure within the environment, and toy selection to successfully produce positive social behaviors between handicapped and nonhandicapped preschoolers. Reinforcement and praise are also common components of peer programming tactics.

Reinforcement, Prompting and Praise

Strain et al., (1974) measured the social interaction between a behaviorally disordered preschool child and her classroom peers under two conditions of contingent adult attention: Intervention 1) verbal

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praise and physical contact directed only to the target subject's peer for appropriate interaction with the target subject; Intervention 2) verbal praise and physical contact directed specifically to the target subject for engaging in appropriate interaction with peers. Social interaction was measured using an $A-B_1-A-B_2-A$ design. The results showed a steady and rapid increase in social behavior for both target subject and peers during the first Intervention phase (B_1). Removal of adult attention in the return to Baseline phase resulted in an immediate decrease in positive social interaction. Contingent adult attention directed to the behaviorally disordered child for positive behavior was accompanied by an abrupt increase in social behavior rates for both target subject and peers during Intervention II. Behaviors across both reinforcement conditions indicate that contingent attention to the target subject produced consistently higher rates of positive behavior than did attention to peers.

The effect of prompting and reinforcement were studied with ten handicapped preschool peers in a combined multiple Baseline-Intervention design (Strain et al., 1976). A combination of verbal and physical prompts, and verbal praise contingent upon appropriate social behaviors directed to three of the handicapped children resulted in increasing their positive social behavior. In addition the study found positive diffusion effects on the other handicapped peers' social behavior. The diffusion effects were even greater when the Intervention procedures were applied to two children at once, rather than to one at a time. The combination of contingent social reinforcement with verbal and physical prompts was an effective procedure which increased the positive social behaviors between handicapped children and their peers.

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Staff members successfully increased the interaction level of six handicapped preschoolers integrated into a day care center through modeling and also reinforcing peers and the handicapped children for interacting with one another (Fredericks, Baldwin, Grove, Moore, Riggs and Lyons, 1975). Their specific guidelines for facilitating social behavior to the next, more advanced, Parten play-interaction level using prompting and reinforcement follow:

1) "To facilitate movement from unoccupied behavior into solitary independent play, or even onlooker activity, the child is placed near other children and is encouraged to participate with a toy or an object. The child is reinforced for manipulating that toy or object while remaining within that environment or observing other children."

2) "To facilitate movement to parallel activity from either the onlooker or solitary play levels, the adult reinforces the child for proximity to other children and for playing with toys similar to the others. The adult encourages the normal children to share toys with the handicapped children, and reinforces the children when they do share. During this type of activity the child should be placed among the normal children, not on the fringes of the group. For instance, if there are five children sitting at a rectangular table, the child should not be placed at the end of the table but in a position where normal peers are at all sides."

3) "To facilitate associative play, the adult arranges a setting where all normal peers are engaging in play with the handicapped peer, and reinforces the normal peers for conversation and sharing of objects with the handicapped child. The handicapped child is

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also reinforced for playing with normal peers. During associative play, if the handicapped child steps out of the setting, the adult should direct the handicapped child to engage in that activity once again and reinforce when the child enters or reenters the group (Fredericks et al., 1975, pp. 196-197)."

Using the Parten scale as a behavioral measure, the Baseline period analysis revealed that the nonhandicapped children spent the majority of their time in parallel and associative play and the handicapped children spend the majority of their time in unoccupied, solitary play, or adult-directed activities. During the Intervention phase each handicapped child was spending nearly fifty percent or more of his time either in parallel or associative play with a concurrent reduction in the amount of time spent in unoccupied, solitary play, and onlooker behaviors. Generalization was seen in a substantial increase in the quality of play in the art room where the Intervention did not occur, thus demonstrating effective use of modeling and reinforcement to increase the social interaction between handicapped and nonhandicapped preschool children.

Peer Training Sessions

Peer training sessions have been shown to have a positive effect on social interaction (Guralnick et al., 1973; Strain et al., 1977; and Wahler, 1967). Strain et al., (1977) used six behaviorally handicapped preschool boys, ranging in age from 39 to 53 months. These children were selected because they rarely engaged in positive interaction with peers. An A-B-A-B design was used. During Baseline I the peers and teachers were instructed not to prompt or reinforce social play. The peers were instructed each day during Intervention I to try their best

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to get the other children to play with them. The Baseline was then re-
instituted followed by Intervention II. During the Baseline conditions,
the subjects emitted few positive social behaviors. The Intervention
showed a dramatic increase in positive social behaviors in all subjects.
When the Baseline was reinstated, the subjects' frequency of positive
social behavior decreased abruptly.

Guralnick's (1976) study was instituted to promote the social
development of handicapped preschool children through structured inter-
action. One handicapped preschooler was the subject and two nonhandi-
capped children served as peer models. Social play behavior was evalu-
ated in terms of the following social play categories: unoccupied,
solitary, onlooker, parallel, associative, and cooperative play. The
handicapped child was asked to watch the associative or cooperative play
of the nonhandicapped children using three toys for the first five
minutes of each fifteen minute play period. This procedure showed no
effect. The next step was a separate training session using role play
to instruct the nonhandicapped children how to interact with the handi-
capped child and his favorite toy (Toy A). This procedure occurred
prior to each session. The nonhandicapped children were shown how to
encourage him to interact with them. After a few sessions, the sub-
ject's solitary play was reduced markedly. Another toy was selected to
evaluate the degree of control exerted by this procedure. This was fol-
lowed by a return to Toy A. The results demonstrated control of
appropriate play behavior by peers. "The fact that modeling was not
sufficient to produce any change in social play behavior suggests the
following. First, it is possible that more basic social approach and
interaction skills were not part of the handicapped children's

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repertoires. Second, the modeling truly may not have been effective as represented here, perhaps being too complex or unsystematic (Guralnick, et al., 1976, p. 241)." The results of this study suggest that peer training sessions using appropriate systematic modeling and interaction can increase social interaction of a handicapped child.

Wahler (1967) also used a peer training session to control the play behavior of a nonhandicapped child who had low response rates in social play. Five subjects were each grouped with two nonhandicapped peers, ages 5-6. In the peer training session the peers were told they were to play a new game with the subject. The children were told to play in any way they wanted, until the subject emitted a predetermined behavior (doll play); then they were to ignore him until he did something different. After a change in the subject's social behavior, a second step occurred which manipulated peer behavior in an effort to reinstate the Baseline contingencies between the selected response behavior and peer behavior. All five subjects showed that their play was under the reinforcement control of social behaviors through peer training sessions.

The Use of Structure

Different types of structure may be used to increase social behavior. Devoney, Guralnick et al., (1974) studied seven handicapped preschool children. The researchers "tried to structure the play situation in a manner designed to increase the likelihood of play interactions and to reinforce with praise and attention any approximations to increased and more highly developed play" (p. 361). Only small gains were made in social play. Five nonhandicapped children were then sent

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into the classroom three times a week for the Intervention phase in an attempt to prompt the handicapped children to engage in more social interaction while the teachers directly intervened by structuring the play for the combined group of children. The Intervention showed noticeable increases in play. The results of this study suggest that nonhandicapped children can serve as effective models with the appropriate structure and increase the quantity of play in handicapped children.

O'Connor (1969) studied the use of a sequenced film to increase appropriate social behavior. Thirteen of the most isolated preschoolers were chosen from 365 preschoolers. Seven of the isolated preschoolers were assigned to the control group and the other six children to the modeling group. The modeling group saw a film, which protrayed a sequence of eleven scenes of a nursery school. The control children viewed a film about dolphins. The nursery school scenes were graduated in terms of vigor of the social activity and the size of the group. The children were then brought back into the classroom. The control children's behavior remained essentially unchanged, whereas the children who had viewed the modeling film showed markedly increased levels of social interaction. This study supports film mediated modeling of sequenced social interaction as an efficacious procedure for modifying socially withdrawn behavior.

Quilitch and Risley (1973) found that adequate social interaction between children may be developed through such play materials as wagons, doll houses, housekeeping toys, dump trucks, dishes, balls, blocks, and other games. These toys are commonly called "social" toys. While this is a popular idea, there are few studies to support this position. The

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study examined the effect that "social" toys may have upon children's social play. Four groups of six nonhandicapped children, averaging seven years of age, were introduced to three conditions each lasting fifteen minutes. Each group of six children was presented with both the social and isolate toys in an A-B-A counterbalanced order. Two of the groups, one and three, received the social toys first, while the other two groups, two and four, received the isolate toys first. The isolate toys included crayons, tinker toys, puzzles, books, and Play-Doh. Under the social toys condition, group 1 spent an average of 68% of the time in social play. In the next condition with isolate toys, social play quickly decreased, averaging 6%. In the second social toy their percentage of time spent in social play increased to an average of 74%. The comparable average figures for groups 2, 3 and 4 were as follows: Group 2 - 0%, 89%, 22%; Group 3 - 93%, 26%, 95%, Group 4 - 11%, 80%, 12%. These results show that structuring the classroom environment with social toys can have a dramatic effect on the social interaction of children.

The studies reviewed show that handicapped children do not necessarily interact with nonhandicapped children. The literature reviewed suggests that specific programming must be developed to increase a handicapped child's ability to socially interact and to profit from the peer model's influence. A recent area of research, structuring and programming the play environment for cooperative play while praising and reinforcing appropriate social interaction, appears to have consistent benefits for mainstreamed programs. These authors point out the significant role of the teacher in fostering and supporting both handicapped and nonhandicapped children's social

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development by directly structuring and programming for interaction and using modeling with either adult or peer reinforcement.

The purpose of this study is, 1) to develop a program to increase social interaction between handicapped and nonhandicapped preschool children during free play situations; and 2) to test the hypothesis that this program involving a combination of praise, reinforcement, environmental structure, and a cooperative lesson provided on a continuous basis, will produce an increased level of social play interaction in handicapped preschool children.

METHOD

Subjects

The study focused on three preschool handicapped subjects who regularly attended a developmental preschool program Monday through Friday mornings. Other children in the preschool program included three nonhandicapped children attending the center Monday, Wednesday, and Friday and two handicapped children, one attending Tuesday, Wednesday, and Thursday, and one attending Tuesday, Thursday, and Friday.

The three subjects had congenital disabilities and their developmental delays range from mild to severe. At the beginning of the study subject 1 (female) was 66 months old; subject 2 (male) was 30 months old; and subject 3 (female) was 53 months old. The subjects had a mean age of 47.7 months. The other delayed children were male children 29 and 51 months old. The nonhandicapped children (2 females and 1 male) ranged in age from 48 to 58 months with a mean age of 53 months.

Setting

The study was conducted at a Big Lakes Developmental Center located in North Central Kansas serving preschool handicapped children and their families. A majority of the families served by the program were from lower socioeconomic status levels.

The study was conducted on Mondays, Wednesdays, and Fridays when both the three handicapped preschool subjects and the nonhandicapped preschool children were expected to attend. The implementation period ran from February 1, 1982, through April 21, 1982, for a total of twenty-five days of observation and implementation over a period of 12 weeks.

The program was based in two large rooms with adjoining closets and bathrooms. The main room had three interest areas: (1) an art area where a large table was provided for painting, playdough, or other creative activities; (2) a manipulative area which had two large tables for the manipulative activities; and (3) a quiet area where the children took books or other toys. The second large room included a housekeeping area with dolls and dishes and a gross motor area that has large steps for motor development and gross motor toys like trucks and bikes.

Design

To test the hypothesis an $A-B_1-C_1-B_2-C_2$ design was implemented with children grouped in dyads or triads, including one handicapped subject in each group, and at least one nonhandicapped child in each group. The Baseline (A) period provided data on the level of social interaction in the child's setting prior to Intervention. Partial Intervention I (B_1) provided data on the level of social interaction in the child's setting after "social" toys were added. Intervention I (C_1) was the full implementation of the program involving praise and reinforcement contingent on appropriate social interaction, environmental structure, and a cooperative lesson plan designed to increase social interaction. The next phase was Partial Intervention II (B_2), a return to B_1 conditions, and then Intervention II, reimplementation of the full program. B_2 and C_2 were included to determine if there was a functional relationship between the full program and the increased children's level of social interaction or merely a gradual increase in social interaction which was not related to the content of the full program.

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<u>Observation Instrument</u>

The handicapped subjects' and their teachers' behaviors were observed during free self-selected play and coded using a time sampling procedure throughout Baseline, Partial Intervention I, Intervention I, Partial Intervention II, and Intervention II. The handicapped subjects' behavior and near environment were scored in five categories: types of play, physical proximity to nearest child, children playing with subject, toy used, and play area. Five aspects of teacher behaviors were coded simultaneously. The coding system is described below and the coding form is in Appendix A.

<u>Children's Behavior and Near Environment</u>

1) **Type of Play**

A modified version of Parten's Social Interaction Scale (1932) consisting of Parten's six categories: unoccupied behavior, solitary play, onlooker behavior, parallel play, associative play, and cooperative or organized supplementary play, plus negative interaction and adult-directed behavior were used to produce eight social participation categories. Observed behavior was checked for each time sample and a "level" score per interval was calculated. The operational definitions of the eight categories are given below:

<u>Negative interactions</u> were defined as verbal or physical responses which interfered with the ongoing activity of another child, or a direct attack on another child. Any such behavior occurring within the observation interval was noted and received a score of -1 (Andrews, 1979).

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Unoccupied:

"The child apparently is not playing, but occupies himself with watching anything that happens to be if momentary interest. When there is nothing exciting taking place, he plays with his own body, gets on and off chairs, just stands around, follows the teacher, or sits in one spot glancing around the room" (Wintre and Webster, 1974, p. 346). These behaviors received a score of 0.

Solitary:

"The child plays alone and independently with toys that are different from those used by the children within speaking distance and makes no effort to get close to other children. He pursues his own activity without reference to what others are doing" (Wintre et al., 1974, p. 346). These behaviors received a score of +1.

Onlooker:

The child spends most of his time watching the other children play. He often talks to the children whom he is observing, asks questions, or gives suggestions, but does not overtly enter into the play himself. This type differs from the unoccupied in that the onlooker is definitely observing particular groups of children rather than anything that happens to be exciting. The child stands or sits within speaking distance of the group so that he can see and hear everything that takes place" (Wintre et al., 1974, p. 346). These behaviors were scored +2.

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Parallel

"The child plays independently, but the activity he chooses naturally brings him among other children. He plays with toys that are like those which the children around him are using, but he plays with the toys as he sees fit, and does not try to influence or modify the activity of the children near him. He plays beside rather than with the other children. There is no attempt to control the coming or going of other children in the group" (Wintre et al., 1974, p. 346). These behaviors were scored +3.

Cooperative-Associative

"The child plays with other children. The conversation concerns the common activity; there is a borrowing and loaning of play materials; following one another with trains or wagons; mild attempts to control which children may or may not play in the group. All the members engage in similar if not identical activity" (Andrews, 1979, p. 38). These behaviors were scored +4.

Adults-directed:

Any behavior directed to or by an adult. This includes such activities as sitting on the teacher's lap, looking at the teacher, and asking the teacher for help. Any activities or play that is prompted by the adult will also be coded as adult-directed. These behaviors received a score of 0.

Only one notation for each play interaction level was made per observation interval.

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2) Physical Proximity. Nearness to the closest peer in the same play area was scored as touching each other, being with an arm's reach of each other, or being in the same play area.

3) Children playing with the subject and interaction level. A designation of the child or children with whom the subject was playing and what level of social play they were involved in was noted.

4) Toy used. The toy that the subject was using was recorded.

5) The play area. The play area or room division where the subject was playing was recorded.

Teacher's Behavior

During each observation interval, the nearest teacher's name was noted and her behavior was scored if she was in the same play area as the subject. The teacher's behavior was scored in five categories:

1) Physical Proximity. The teacher in the same play area with the subject was coded as touching the target child, being within arm's reach, or being in the same play area.

2) General verbal behavior. Any general verbal behavior between the teacher and subject was recorded. This behavior is different from verbal reinforcement in that it did not directly reinforce a child's appropriate social behavior.

3) Prompting. Physical and verbal activities of the teacher involved such activities as 1) Moving a child to where other children were playing and/or 2) Moving a child's hands, feet, etc., in such a way that he might engage in some positive ongoing interaction with peers. Verbal prompts included such comments as "Let's play with your friend".

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4) Reinforcement. Positive physical and verbal behaviors of the teacher contingent on the child's positive social behavior will be recorded. Two contingent reinforcements will be recorded: 1) Verbal praise and if it is specific to subject of general to the cooperative play group. 2) Physical touch contingent on positive social behavior and if it is directed specifically to the subject or generally to the peer(s) involved in the social play.

5) Punishment. Punishment will be recorded in two main categories: 1) Verbal criticism will be scored as being specifically directed to the children invilved in the play group. 2) Physical punishment will be scored in terms of restraint, removal, and/or punishment as a swat to the subject for inappropriate social behavior.

Time Sampling Procedure

Data were collected during self-selected play period for about twenty-five minutes each day. The twenty-five minute period began five minutes after the last child arrived at school to reduce any effect of the children's arrival at school. Each observation interval included a ten second observation followed by a twenty second coding period. Observations rotated among the handicapped preschool subjects resulting in twelve observations for each subject each day. A tape recorder was used to cue the observers to the observation and recording intervals for each subject.

Interobserver Agreement

Inter-rater agreement was calculated in terms of the codes defined in the observation instrument. The Baseline phase did not begin until the observers reached 85% overall agreement. Daily interobserver reliability was calculated by dividing the number of agreements by the total number of agreements and disagreements and then multiplying by 100.

$$\text{Daily Agreement \%} = \left(\frac{\text{No. of agreements}}{\text{No. of disagreements} + \text{No. of agreements}} \right) \times 100$$

Daily agreement data was also collected during 48% of the 25 Baseline, Partial Intervention I, and Intervention I, Partial Intervention II, and Intervention II days. Daily agreement ranged from 84% to 97% with an average overall coding agreement level of 92%. When calculating percentages for the children's type of play level, the range was 76% to 100% with an average 90% agreement.

Intervention Phases

Baseline

The Baseline phase began after the 85% daily interobserver agreement reliability was attained. During the Baseline phase the teachers were instructed not to initiate interaction or give praise to the children and to terminate their contact as quickly as possible. No training procedures were in effect to modify the children's behaviors. The Baseline was four days covering one and one half weeks.

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Partial Intervention I

The Partial Intervention I followed Baseline and continued for six days over a two week period. Again the adults were instructed not to initiate interaction or give praise to the children and to terminate their contact as quickly as possible. This phase was used to test the impact of adding social toys to the already existing environment. The social toys were selected and made by the experimenter who had experience with toys which potentially enhance social interactions. The social toys placed in the room included: dolls; diapers; milk and orange juice baby bottles; dishes; pots and pans; coffee pots; table placements; silver ware; spatulas; plastic fruit, vegetables, eggs, hamburgers, steaks, butter, cheese, french fries; baker's dough made into muffins in a tin and cookies of various shapes, color, and sizes with small cookie sheets; shopping carts; tubs of water to wash dishes or dolls; tubs of colored macaroni for the children to share; trucks and roads; and laminated cards of Sesame Street characters or food that were used with flannel boards.

Intervention I

The teachers were involved in a 30 minute in-service program to increase their contingent use of praise and reinforcement. During the full Intervention phase a combination of contingent praise and reinforcement, environmental structure, and a cooperative lesson program on the children's appropriate social interactions was implemented in addition to the Partial Intervention conditions. This phase followed Partial Intervention I phase and included six days over a two week period.

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Each social interaction lesson lasted ten minutes and involved two or three puppets working together to complete a task. The tasks included:

   Lesson I - Making a present for a special "happy day"

   Lesson II - Coloring wrapping paper and wrapping the present

   Lession III - Washing the dishes for the party

   Lesson IV - Getting the special guest to the party

   Lesson V - Making a cake for the party

   Lesson VI - Icing the party cake

After each lesson the groups of handicapped and nonhandicapped children were guided to reenact the cooperative social lesson they had just observed. During the ten minute reenactment they were praised and reinforced verbally and physically for contingent social interaction and cooperation. During the self-selected period of the program the teachers were to verbally and physically praise and reinforce appropriate imitation of social interaction between peers.

Partial Intervention II

This phase involved a return to conditions of Partial Intervention I, in which the teachers were instructed not to initiate interaction or give praise to the children and to terminate their contact as quickly as possible. The phase included three days over a one week period and began one week after Intervention I due to the Center's spring vacation.

Intervention II

Intervention I conditions were re-instituted following Partial Intervention II and included six days over a three week period due to interruptions of preplanned school events.

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The results are divided into the following sections: the effects on the preschool handicapped children is social play and the effects on teacher behavior. These effects are illustrated through figures and tables showing child and teacher behavior in the five phases of the study.

Effects on Preschool Handicapped Children's Social Play

The effects of the Experimental Conditions are presented for each of the three preschool handicapped subjects. Their average daily social interaction level and the average social interaction level per phase for each subject are presented in the accompanying figures.

Subject 1

Subject 1 achieved her highest level of social play in the Intervention II. Her average daily social interaction level and average phase social interaction level per phase are shown in Figure 1. Subject 1's average Baseline social interaction socre was 1.06, placing her at the solitary interaction level. During the Partial Intervention I phase her social interaction score was 1.47, placing her higher in the solitary interaction level. In Intervention I her average interaction score was 1.6, continuing to place her at the solitary interaction level. During Intervention I she appeared fatigued and ill for the first three days and was absent for the last three days due to pneumonia. Her average daily Partial Intervention II phase social interaction score was 1.3, placing her lower in the solitary interaction level. In the Intervention II phase her social score rose to 2.7, placing her

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FIGURE 1. SOCIAL INTERACTION LEVEL BY CONDITION
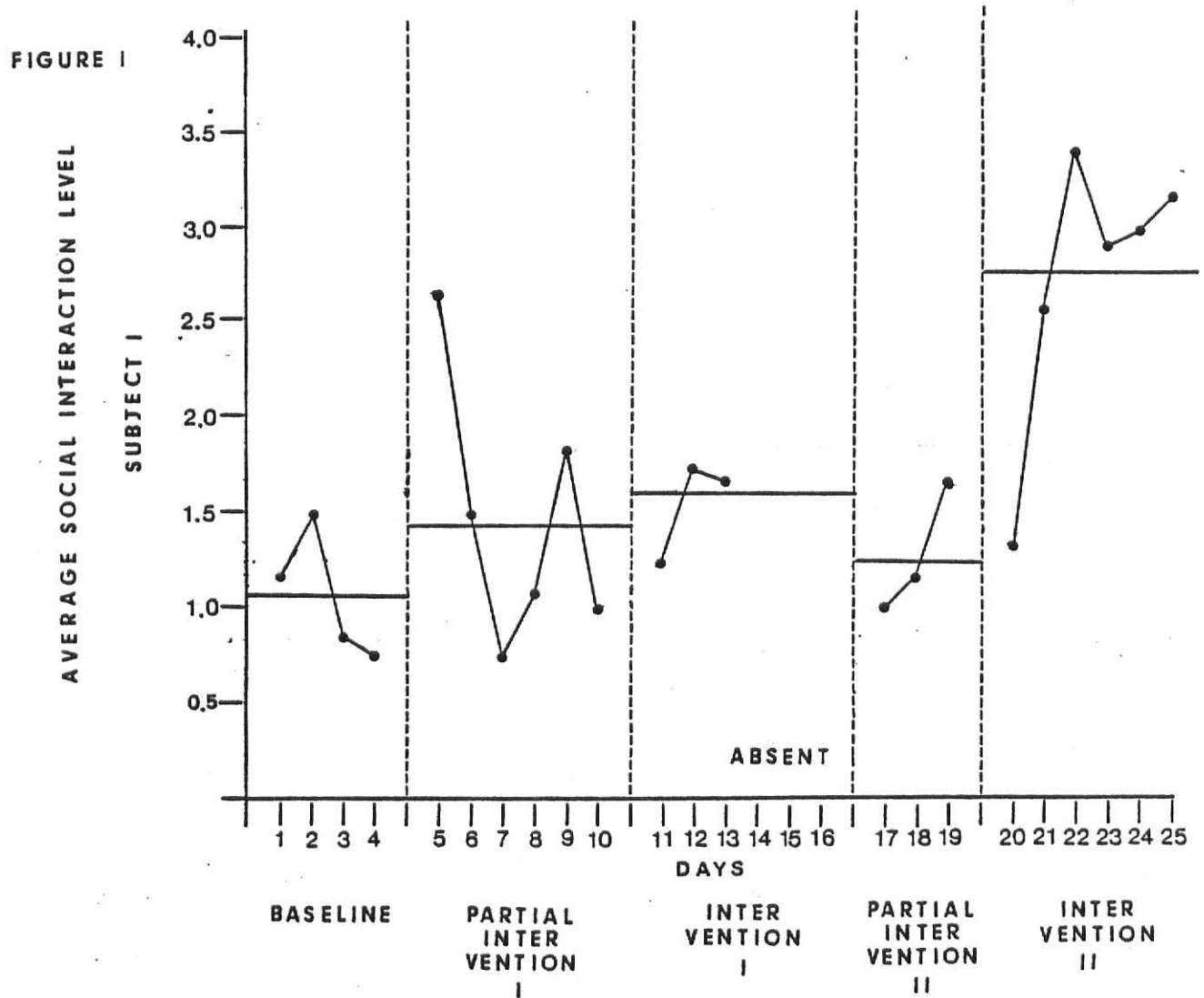
FIGURE I

Experimental Conditions

Note: The horizontal lines represent the average social
interaction level per condition.

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at the onlooker social interaction level. During this phase her daily social interaction level scores were accelerating.

Subject 2

Subject 2 achieved his highest social play level in the Intervation II phase. During Baseline his average daily social interaction score was 1.2, placing him low in the solitary interaction level (see Figure 2). In the Partial Intervention I phase his score was 1.6, placing the subject higher in the solitary interaction level. At Intervention I his social interaction score rose to 2.2, placing the subject at the onlooker interaction level. His average daily score during the Partial Intervention II phase declined to 1.6, dropping him to the solitary interaction level. In the Intervention II phase his average daily social interaction score rose to 3.2, placing him at the parallel social play level.

Subject 3

Subject 3 also achieved her highest level of social play in the Intervention II phase. The average daily social interaction level and average level for each phase for subject 3 is presented in Figure 3. Her average Baseline social interaction score was 1.6, placing her in the middle portion of the solitary interaction level. During the Partial Intervention II phase her social interaction score was 1.9, placing her higher in the solitary interaction level. Her Intervention I phase average social interaction score rose to 2.9, placing her high in the onlooker interaction level. During the Partial Intervention II phase, her average social interaction score dropped to 1.1, placing her low in the solitary interaction level. In the Intervention II phase,

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FIGURE 2. SOCIAL INTERACTION LEVEL BY CONDITION
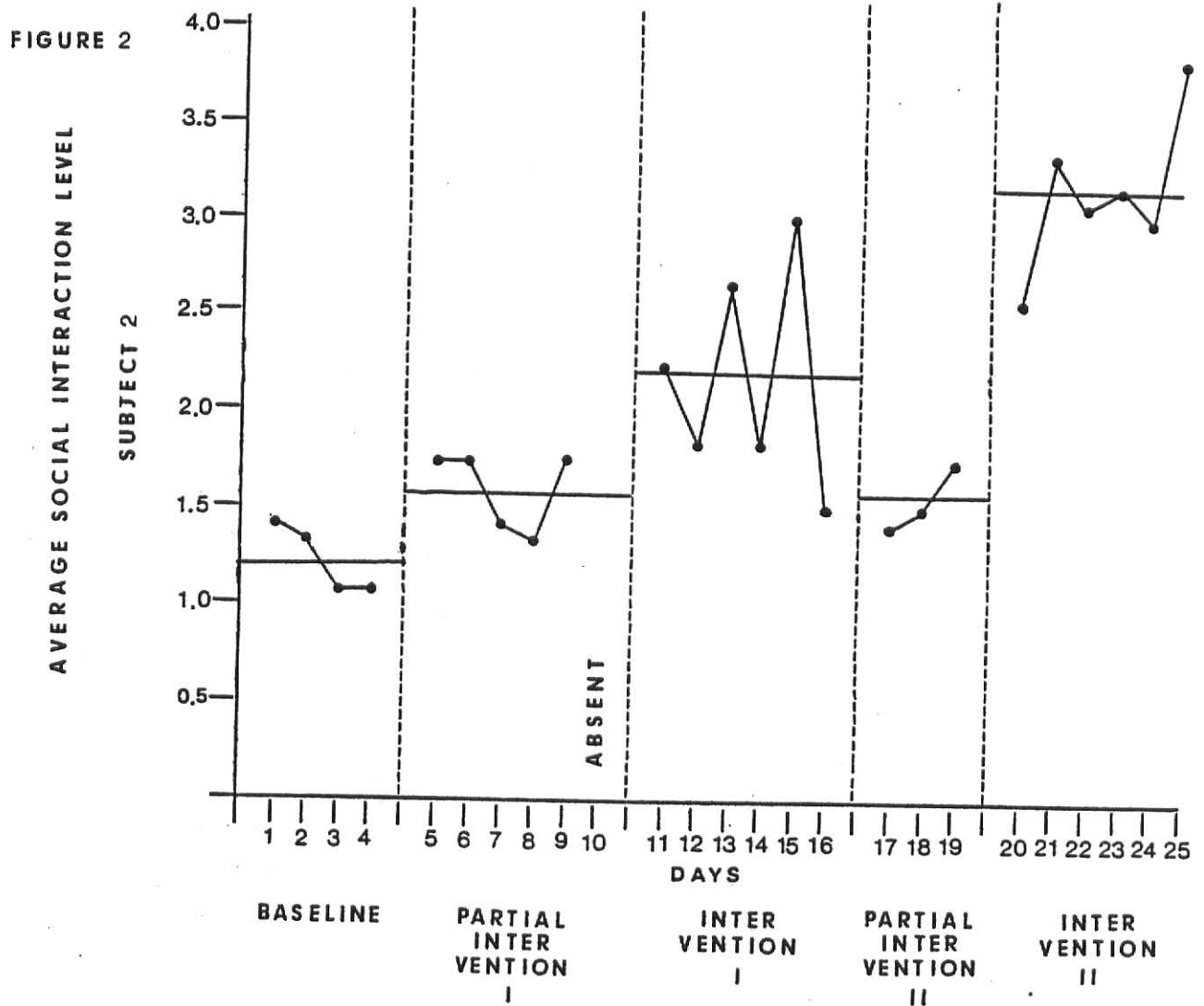
FIGURE 2

Experimental Conditions

Note: The horizontal lines represent the average social
interaction level per condition.

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FIGURE 3. SOCIAL INTERACTION LEVEL BY CONDITION

FIGURE 3

Experimental Conditions

Note: The horizontal lines represent the average social
interaction level per condition.

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her social interaction score rose to 3.2, placing her at the parallel play social interaction level.
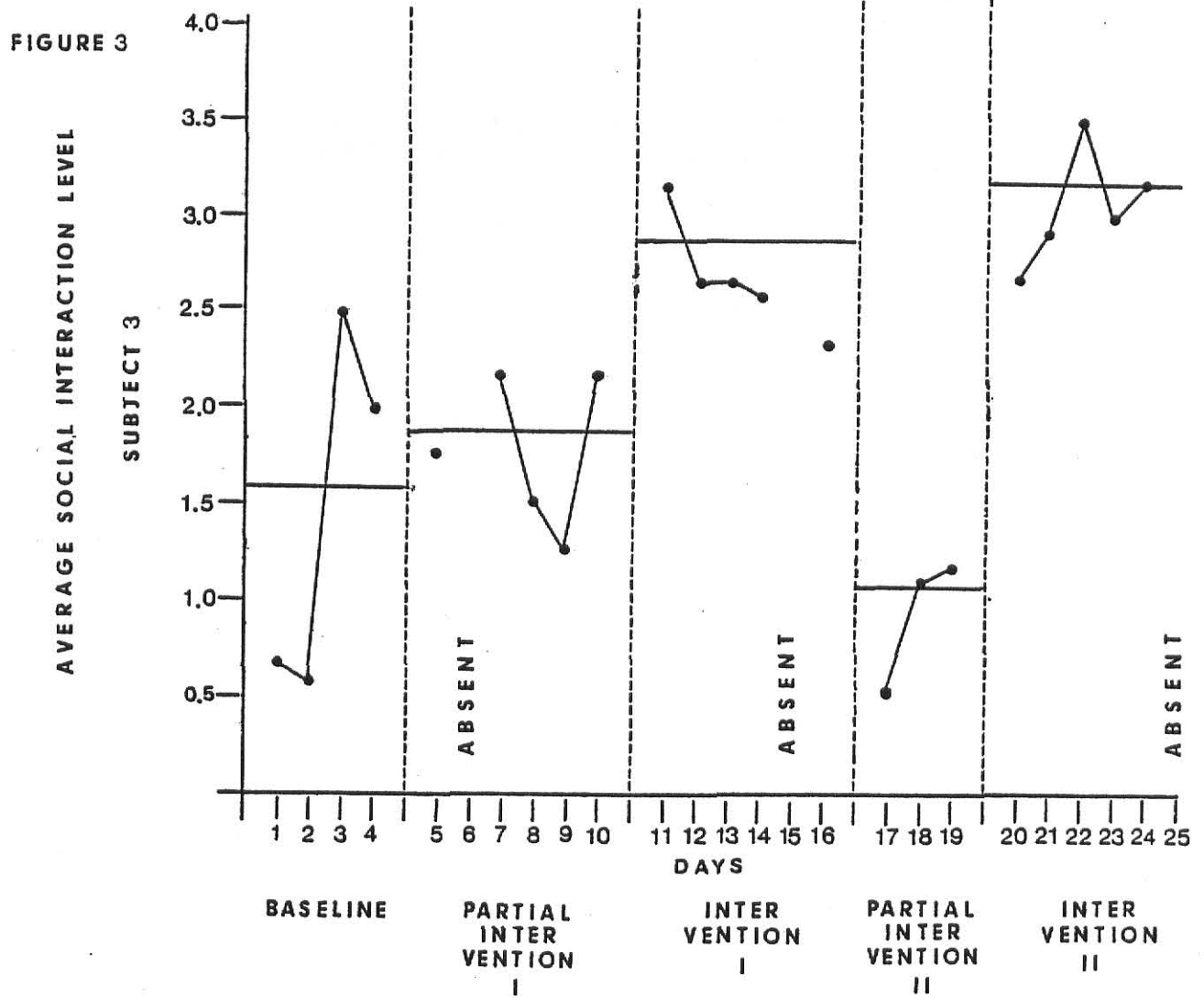
The percentage of observations each subject was observed at for each social interaction level during each condition was calculated as an alternative presentation of the experimental effects. Table 1 presents the percent of observation per phase each subject was observed at each play level for the five experimental conditions of the study.

Subject 1 spent 75% of her time in solitary play during Baseline. During the Partial Intervention I phase, she spent 62.5% of her time in solitary, and increased parallel 15.3% from a Baseline of 10.4%. During Intervention I, she spent 38.9% of her time in solitary play and increased her parallel play to 27.7%. In Partial Intervention II, she spent 80.5% of her time in solitary play and parallel play dropped to 13.9%. Her time at parallel play increased to a high of 57% and her solitary play dropped from to 18.0% in Intervention II.

Subject 2 spent 58.3% of his time in solitary play during Baseline. During Partial Intervention I, he spent 41.7% of his time in solitary play, but increased his cooperative-associative to 5.0%. At Intervention I, subject 2 spent 38.9% of his time in parallel play, increasing from the Baseline of 2.1%. During Partial Intervention II, he spent 52.8% of his time in solitary play and no cooperative-associative play was recorded. In Intervention II, subject 2 spent 37.5% of his time in cooperative-associative and only 5.6% in solitary play.

Subject 3 spent 48% of her time in solitary play during Baseline. During the Partial Intervention I phase, she spent 46.6% of her time in solitary play, but increased her parallel play to 33.3%. During Intervention I her parallel play was 48.3% and her solitary dropped to

TABLE 1

SOCIAL INTERACTION LEVEL BY EXPERIMENTAL CONDITIONS AND SUBJECT*

Subject 1

SOCIAL INTERACTION LEVELS

	Baseline	Partial Intervention	Intervention I	Partial Intervention	Intervention II
Negative	0.0	0.0	0.0	0.0	0.0
Unoccupied	14.6	9.7	22.7	2.8	1.4
Solitary	75.0	62.5	38.9	80.5	18.0
Onlooker	0.0	5.6	5.6	2.8	2.8
Parallel	10.4	15.3	27.7	13.9	57.0
Coop. Ass.	0.0	6.9	5.6	0.0	20.8

Subject 2

SOCIAL INTERACTION LEVELS

	Baseline	Partial Intervention	Intervention I	Partial Intervention	Intervention II
Negative	2.0	16.0	0.0	0.0	0.0
Unoccupied	4.2	6.7	0.0	0.0	0.0
Solitary	58.3	41.7	30.6	52.8	5.6
Onlooker	14.6	35.0	19.4	38.9	9.7
Parallel	18.8	10.0	38.9	8.3	46.2
Coop. Ass.	2.1	5.0	11.1	0.0	37.5

Subject 3

SOCIAL INTERACTION LEVELS

	Baseline	Partial Intervention	Intervention I	Partial Intervention	Intervention II
Negative	0.0	1.7	3.3	0.0	1.6
Unoccupied	14.6	1.7	1.7	11.1	0.0
Solitary	48.0	46.6	6.7	77.8	5.0
Onlooker	6.2	10.0	11.7	2.8	1.7
Parallel	20.8	33.3	48.3	8.3	55.0
Coop. Ass.	10.4	6.7	28.3	0.0	36.7

*Percent of observations at each social interaction level.

6.7%. In Partial Intervention II she spent 77.8% of her time in solitary play, and only 8.3% in parallel. During Intervention II, she spent 55.0% of her time in parallel play, and only 5.0% of her time in solitary play.

Effects on Teachers' Behavior

The highest levels of appropriate teacher prompting and reinforcement of the subjects' social play were found in the Intervention II experimental condition. Table 2 presents the occurrences of physical and verbal prompts and verbal praise given to subjects 1, 2, and 3 during Intervention I and Intervention II. During the Baseline and Partial Intervention conditions the teachers were asked to refrain from prompting and reinforcing social play. As seen in Table 2, the teachers followed this request and limited their prompts and reinforcements to the Intervention conditions. The teachers presented more prompts and verbal reinforcement in Intervention II than in Intervention I, ($\chi^2 = 23.02$, df = 1, p< .001).

Table 3 presents the prompts and reinforcements used during the Intervention I and II conditions by selected social interaction levels. The teachers used four times (38 vs 8, $\chi^2 = 19.56$, df = 1, p< .001) more verbal prompts and twice as many (7 vs 3) (n·s) specific reinforcement techniques contingent upon combined parallel and cooperative associative play in Intervention II than in Intervention I. Between Intervention I and Intervention II the teachers increased their contingent responsive verbal praise for cooperative-associative play (29 vs 6, $\chi^2 = 15.11$, df = 1, p< .001).

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TABLE 2

TEACHERS' BEHAVIOR BY EXPERIMENTAL CONDITIONS

EXPERIMENTAL CONDITIONS

Teacher Behavior	Baseline	Partial Intervention	Intervention I	Partial Intervention	Intervention II
Prompting					
Move child	0	0	3	0	2
Move part of child	0	0	0	0	4
Verbal	0	0	8	2	41
Reinforcement Verbal Praise					
Specific to subject	0	1	4	0	7
General to all Children	0	0	1	0	3
Total	0	1	16	2	57

Note: Chi-Square test of Total Intervention I vs Intervention II,

$$\chi^2 = 23.02, \ df = 1, \ p < .001.$$

TABLE 3

**TEACHER BEHAVIOR BY INTERVENTION CONDITION
AND CHILDREN'S SOCIAL INTERACTION LEVEL**

INTERVENTION CONDITION

	Intervention I			Intervention II		
	Social Interaction Level					
Teacher Behavior	Solitary	Parallel	Cooperative Associative	Solitary	Parallel	Cooperative Associative
Prompting						
Move child	1	0	0	0	1	0
Move part of child	0	0	0	0	1	3
Verbal	1	2	6	1	9	29
Reinforcement Verbal Praise						
Specific to subject	0	2	1	0	0	7
General to all Children	0	0	1	0	0	3

The occurrence of adult participation in the children's activities was greatest in the Intervention conditions. Table 4 presents the occurrences of adult-directed activites for each subject for each exper-imental condition. The distribution of total adult-directed activity among the five phase is significantly unequal (χ^2 = 28.01, df = 4, p< .001). Adult-involved activities occurred more in Intervention I and Intervention II than other phases (χ^2 = 15.70, df = 1, p< .001). The increase in adult direction is especially marked in Intervention II. The subjects received more adult direction in Intervention II than Intervention I. (χ^2 = 8.66, df = 1, p< .01). The adult involved act-ivities with the high use of prompts and reinforcement combined with environmental structure and a cooperative lesson program may account for the subjects' increased social interaction levels found in Intervention I and especially in Intervention II.

TABLE 4

**TEACHER-DIRECTED BEHAVIOR BY EXPERIMENTAL CONDITIONS
AND SUBJECT**

EXPERIMENTAL CONDITIONS

Subject 1

	Baseline	Partial Intervention	Intervention I	Partial Intervention	Intervention II
Unoccupied	0	1	2	0	1
Solitary	3	2	2	2	0
Onlooker	0	0	0	0	0
Parallel	0	0	1	1	1
Coop. Ass.	0	0	0	0	4

Subject 2

	Baseline	Partial Intervention	Intervention I	Partial Intervention	Intervention II
Unoccupied	0	2	0	0	0
Solitary	1	4	8	4	1
Onlooker	2	0	1	1	0
Parallel	1	0	5	0	8
Coop. Ass.	0	0	0	0	11

Subject 3

	Baseline	Partial Intervention	Intervention I	Partial Intervention	Intervention II
Unoccupied	2	0	0	2	0
Solitary	6	6	1	11	1
Onlooker	4	1	0	0	1
Parallel	1	3	3	0	7
Coop. Ass.	0	0	3	0	10

Three Subject Total	20	19	26	21	52

DISCUSSION

Overall the present investigation was to determine if an effective program could be developed to increase the social interaction between handicapped and nonhandicapped preschool children. A teacher in-service and classroom program was designed and successfully implemented which used a combination of contingent praise and reinforcement, environmental structure, and a cooperative lesson plan. The results of this investigation clearly show a functional relationship between the total program and the handicapped children's increased social interaction.

The program involved an in-service program where the experimenter demonstrated the use of appropriate praise and reinforcement techniques for the Intervention phases. The in-service programs successfully enhanced the teachers use of verbal and physical prompts and reinforcement during Intervention. Cooperative lesson plans and the use of structured play materials also contributed to the children's increased social interaction levels.

Effects on Children

When the data collection began, the three handicapped subjects were all predominently at the solitary play interaction level. The introduction of social toys in Partial Intervention I led to a modest increase in social play of all subjects. The increase in social play was mostly due to setting out the materials in a manner to stimulate group interaction (e.g., setting the table with cups and saucers). The in-service program for the teachers, designed to enhance their use of prompting, contingent praise and reinforcement, as well as structured cooperative

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lesson plans in Intervention I resulted in moderate increases in the handicapped children's social play. When the teachers were asked to refrain from interacting with the children and the cooperative lesson plan was omitted (Partial Intervention II) the children's level of social interaction declined dramatically. For two of the subjects, the social interaction level was even lower than the Partial Intervention I. This is likely due to the contrast between the full program with teacher praise and reinforcement and its omission in Partial Intervention II. The low social interaction level also suggests that the novelty of the toys themselves wore off and without appropriate environmental structure the children's play level declined. The low level of social interaction in Partial Intervention II show the need for structure in the toys and changing them throughout the week. This suggests that social toys alone do not enhance or promote cooperative play. Structure through arranging the activities or toys in the environment is needed to increase cooperative social play. Re-instituting the in-service program and showing the teachers the effect the program had on the subjects appears to have increased the effectiveness of this Intervention when prompting, contingent praise and reinforcement, environmental structures, and the cooperative lesson play was repeated in Intervention II. The handicapped children's increase in social interaction from Intervention I to Intervention II demonstrates the importance of continuing the use of prompting, reinforcement, cooperative lesson plans, and in-service programs for the teachers. Praise and reinforcement is needed in a structured environment along with social toys to provide the greatest increase in social play.

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These findings are consistent with past research which has shown that reinforcing positive social interaction, such as cooperative play, and structuring the physical environment will increase the social interaction between handicapped and nonhandicapped preschoolers (Devoney, et al., 1974; Guralnick, 1976; Strain, et al., 1976; Strain et al., 1977; and Strain, et al., 1974). Strain and Timm (1974) reported that cooperative programming arrangements relying on contingent rewards to the subjects and peers for appropriate social interaction can increase their social interaction. This study also corresponds to another study by Strain, Cooke, and Apolloni (1976) where a combination of contingent social reinforcement with verbal and physical prompts was an effective procedure which increased the positive social behaviors between handicapped subjects and their handicapped peers. Fredericks, et al (1975) also found that the interaction levels of six handicapped preschoolers were successfully increased through modeling and also reinforcing peers and the handicapped children for interaction with one another. This study extends the above findings by showing that teachers can be assisted to achieve increasing social interaction among handicapped preschool children rather than relying on the researcher to directly affect the children's play.

Effects on Teachers

The greatest effects on the teacher's behavior followed the second in-service. After the teachers had the second in-service program and were shown the effects of their behavior on the children through the second Intervention, the teachers gave more verbal prompts and specific reinforcement in Intervention II than they had in Intervention I. The

teachers gave significantly more verbal prompts and utilized more specific reinforcement techniques for parallel and cooperative-associative play behaviors in Intervention II than in Intervention I. The teacher's awareness of their effect on the children's behaviors which was emphasized during the second in-service program appears to have resulted in their increased use of prompts and reinforcements in Intervention II.

The results of the current investigation support the hypothesis that a program can be implemented with a combination of praise, reinforcement, environmental structures, and a cooperative lesson plan to increase the level of social interaction for handicapped preschoolers' play. Finally, the results of this study should provide valuable stimulation for the development of integrated programs for preschool handicapped children.

Additional research might be conducted to provide a more detailed analysis of the types of toys and environmental structure that will enhance social interaction between integrated handicapped and nonhandicapped preschoolers. Research might also be directed to identify the components or combination of components of the Intervention, including the use of an in-service program to promote the teachers prompting, contingent praise and reinforcement, environmental structure, and a cooperative lesson plan, which account for the effetiveness of this experimental program. The effects of repetition in lesson plans and in-service programs should also be studied to see if they have a compounded effect on the teacher behavior which will in turn influence the children's social behavior. Other researchers may wish to analyze how long the enhanced cooperation would persist without specific teacher

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reinforecment.   Future research on mainstreaming and early childhood
education, perhaps conducted within the present study's framework, may
provide us with a set of procedures and strategies that can be applied
to further enhance the social development of handicapped children.

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The following is an example of the data sheet used to record ongoing social interaction. Each child is designated by a number. The child's number will be designated at the top of each column.

Subject			
Child's Behavior			
Type of Play			
1. negative	___	___	___
2. unoccuppied	___	___	___
3. solitary	___	___	___
4. onlooker	___	___	___
5. parallel	___	___	___
6. coop-ass.	___	___	___
7. adult-direct.	___	___	___
Physical Proximity			
To Closest Child			
1. touching	___	___	___
2. arms reach	___	___	___
3 same area	___	___	___
Children with Subject			
1. Names	___	___	___
	___	___	___
2. parallel	___	___	___
3. coop-ass.	___	___	___
4. adult-direct.	___	___	___
Toy Used			
Play Area			
1. housekeeping	___	___	___
2. manipulative	___	___	___
3. art area	___	___	___
4. gross motor	___	___	___
5. other	___	___	___
Teacher's Behavior			
1. teacher	___	___	___
Physical Proximity			
In Same Area			
1. touching	___	___	___
2. arms reach	___	___	___
3. same area	___	___	___
General Verbal			
1. general ver.	___	___	___
Prompting			
1. move child	___	___	___
2. part of child	___	___	___
3. verbal	___	___	___
4. other	___	___	___
Reinforcement			
Verbal Praise			
1. specific	___	___	___
2. general	___	___	___
Physical			
1. specific	___	___	___
2. general	___	___	___
Punishment			
Verbal			
1. specific	___	___	___
2. general	___	___	___
Physical			
1. restraint	___	___	___
2. removal	___	___	___
3. punishment	___	___	___

APPENDIX B

The following is the outline of the thirty minute in-service program designed to aid the teachers in increasing social interaction among the handicapped and nonhandicapped through structuring the environment, toys, and programming while praising and reinforcing appropriate social interaction.

OUTLINE OF IN-SERVICE PROGRAM

I.   Integrating handicapped children with nonhandicapped children.

    A.   Claims for integrated programs.

    B.   Conclusions from research by Apolloni and Cooke.

        1.   Simply placing handicapped and nonhandicapped children together does not result in imitation or interaction.

II. Parten's play-interaction levels.

    A.   Unoccupied behavior
    B.   Solitary independent play
    C.   Onlooker
    D.   Parallel activity
    E.   Associative Play
    F.   Cooperative Play

III. Role of the teacher.

The teacher plays a significant role in fostering and supporting both handicapped and nonhandicapped children's interaction.

    A.   Praise and reinforcement.

        1.   Presentation of research by Strain and Timm (1974).

        2.   Research by Strain, Shores, and Kerr (1976).

        a.   Used a combination of verbal and physical prompts and verbal praise contingent on appropriate social behavior. Example: "Now let's play with the other children"; "Pass the block to Steve"; or "You can play house together".

b. Physical prompts: leading the subject into the
        proximity of other children.

    c. Modeling play with the other children.

    d. Directly teaching imitation.

B. Facilitating social behavior to the next more advanced
    Parten play-interaction level using prompting and
    reinforcement.

    1. Research by Frederick et al. (1975).

C. Environmental Structure.

    1. Quilitch and Risley (1973).

        a. Social toys enhance social play.

Materials for Experimental Stories and Tasks

The list below is for the experimental stories and corresponding tasks. The materials for the experimental tasks are needed for each triad.

1) Making Presents -
   Experimental story
   - flannel board
   - flannel people - teacher, Grover, Ernie, Bert, Big Bird, Cookie Monster.
   - rolling pin, dough, paint, brush, and decorating strings, hand prints.
   - hand prints and presents.

   Experimental task
   - bakers dough, rolling pins (2 per triad)
   - two colors of paint (2 paint brushes per triad and two bowls)
   - small bowl of decorating strings
   - wax paper
   - spatula

2) Wrapping Presents -
   Experimental story
   - flannel board
   - flannel people - Bert, Ernie, Big Bird, (Cookie Monster), and teacher
   - flannel rolling pin, dough, paint, brush, and scissors.
   - flannel paper, crayons, box, presents, stamps, and stamp pad.
   - bow and tape

   Experimental task
   - white paper, stamps and stamp pad, crayons box, tape, bow, and present.

3) <u>Washing</u> <u>Dishes</u> –

Experimental story — flannel board

                          — three plastic dolls – Ernie, Cookie Monster, and Big Bird.

                          — flannel washing tubs, soap bottle, sponge, plate, spoon, bowl, towel, and cup.

Experimental task — wash and rinse tub, two towels, one soap bottle, sponge, dishes, spatula, and dish drainer

4) <u>Going</u> <u>To</u> <u>The</u> <u>Party</u> –

Experimental story — flannel board

                          — finger puppets Bert, Ernie, Big Bird, Cookie Monster

                          — flowers, and cookies

                          — flannel table, magnet, and teacher

                          — flannel wash tub, soap bottle, sponge, dishes, dough, rolling pin, paint, paint brushes, tape, paper, stamps, and towels

                          — plastic sheet with magnets

Experimental task — three chairs in triangle formation

                          — plastic sheet

                          — magnet

                          — Bert, Ernie, Cookie Monster, Big Bird, cookies and flowers

5) <u>Making</u> <u>The</u> <u>Cake</u> –

Experimental Story — flannel board

                          — construction paper Sesame Street characters

                          — flannel dough, rolling pin, paint, brushes, dishes, sponge, soap, and teacher

                          — flannel spoon, dishes, cake box, muffin pan, funnel, and water

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Experimental task   - cake mix, 1 egg, ½ cup water, funnel,
                      mixing bowl, spoon, scoop, and greased
                      muffin pan

6)   <u>Wrapping</u> <u>Presents</u> -
     Experimental story - flannel board
                         - all Big Bird characters (Cookie Monster)
                         - flannel teacher, bowl, spoon, icing box,
                           two knives, muffin, and food coloring
     Experimental task   - icing mix
                         - bowl, spoon, three knives
                         - food coloring, two TB. hot water and
                           muffins

APPENDIX D

Experimental Story

    Six cooperative lesson plans were devised to facilitate cooperation and sharing between dyad and triad members. Keeping developmental differences in mind, the tasks were designed to produce a successful feeling in all the children. The tasks are centered around the idea of having a "happy day" for Big Bird (Intervention I) and Cookie Monster (Intervention II) while using materials natural to or similar to those used in everyday preschool programming. Each cooperative lesson plan involve a ten minute flannel story describing each task. The children will work on the task in dyads or triads after each lesson. The nature of the six tasks are described on the next page.

1)   Making A Present - Introduce the Sesame Street characters while placing each one on the felt board (Big Bird, Cookie Monster, Bert, Ernie, and Grover).   Take down the characters.   T instructs the triad;

> "Big Bird (Cookie Monster - Intervention II) has been sharing the rolling pin with Bert, Ernie, Grover and the other children. They have been working together."

Place the rolling pin on the board while introducing it.   Take down the rolling pin.   Follow the same procedures for the dough, paint, brushes and decorating ribbons and strings.   Place the teacher on the board while continuing;

> "Big Bird (Cookie Monster) has been sharing the dough, paint brushes, and decorating ribbons and string.   This is Big Bird's (Cookie Monster's) teacher. She likes the way everyone is playing together and sharing so nicely!" We're going to have a "happy day" for him.   To have a "happy day" for Big Bird (Cookie Monster) we will need to make him a present."

Place the presents on the board while continuing;

> "Here are four presents that are already made and wrapped. I think Big Bird (Cookie Monster) well really be happy."

Place Grover, Ernie, and Bert on the board while continuing;

> "To make a present, we will need three people to work together."

Place the dough and the rolling pin on the board while continuing;

> "This is the dough and the rolling pin that Grover, Bert, and Ernie are going to take turns using to roll out the dough.   After the dough is rolled out, each child will make one hand print. You will have to work together and share like Grover, Bert, and Ernie to be able to get three hand prints on the dough."

Place the hands on the dough.   Place the paint, brushes, and decorating string and ribbons on the board while continuing;

> "This is the paint, the brushes, and the decorating materials. We can take turns and work together to paint each others hands and decorate the present with ribbons for Big Bird's (Cookie Monster's) happy day.   Can we let someone else paint on our own hand print?

Yes, we can let someone else paint on our hand. We will really be sharing if we let someone else paint on our hand."

Review the story with the children and help them answer the question;

"Who are we having the happy day for? Yes, the party is for Big Bird (Cookie Monster). Why is Big Bird (Cookie Monster) having a happy day? That's right, because he shares and works with the other children. What has Big Bird (Cookie Monster) been sharing? He has been sharing the dough, rolling pins, paint and brushes. What are we going to make for the happy day? We are going to make a present. How are we going to make the present? We will make the present by taking turns rolling out the dough, making hand prints, painting, and putting decorations on the dough. How many children will be working together? Three children will be working together to make the present."

2)   Wrapping The Present - Place Big Bird (Cookie Monster) on the

board. T asks the children;

"Do you know who this is? Why is Big Bird (Cookie Monster) at school today? That is right, we are having a happy day for Big Bird (Cookie Monster)."

Place Bert, Ernie, and a present on the board while continuing;

"This is Ernie and Bert. They are running to Big Bird's (Cookie Monster's) happy party. Why are we going to have a happy day for Big Bird (Cookie Monster)? We're having a happy part because Big Bird (Cookie Monster) has been sharing and working with the other children. What kinds of things has Big Bird (Cookie Monster) been sharing?"

Place each item on the board while continuing;

"Big Bird (Cookie Monster) has been sharing the rolling pin, dough, paint, and paint brushes. Today Big Bird (Cookie Monster), Bert, and Grover are going to share paper, tape, crayons, stamps, and stamp pads."

Take the items off the board while continuing;

"Have you been sharing these things? Yes, that is why you're invited to the happy party."

Place the teacher on the board. The teacher is saying;

"Oh, look at the way the children are sharing the dough, rolling pins and other toys! I like it when everyone shares! They make me so happy, that we're going to have a big "happy party" for Big Bird (Cookie Monster)! Have you made anything for Big Bird (Cookie Monster) for the party? Yes, have you wrapped it yet? No, you haven't."

Place the presents on the board while continuing;

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"Before we can wrap our presents, we need to decorate the paper to make it pretty."

Place the colors, stamp, and pad on the board while continuing;

"We can color on the paper and make trees or snow. You can take the stamp, press it in the stamp pad and make letters on the paper. Then we can put the present in a box and wrap it up with some tape and put a bow on top."

Place the tape and bow on the board while continuing;

"We are going to have three children working together on one present. Will you have to share the paper? Will you have to share the crayons, stamps and stamp pad? Yes, you will be sharing and working together with your friends. What are we going to do today? Yes, wrap a present. Who is the present for? Why are we having a happy day for Big Bird (Cookie Monster)? Because he has been sharing and playing with everyone at school. What has he been sharing? Big Bird (Cookie Monster) has been sharing the dough, rolling pin, paint and paint brushes, tape, paper and stamps."

3) <u>Washing The Dishes</u> - <u>T</u> introduces the plastic Big Bird (Cookie Monster) by saying;

"Who knows who this is? Yes, it's Big Bird (Cookie Monster). Why is Big Bird (Cookie Monster) at school today? That is right, we are having a happy day for Big Bird (Cookie Monster)."

The <u>T</u> places the two other plastic dolls in front of her while continuing;

"Big Bird (Cookie Monster) has been sharing the rolling pin, dough, paint, paint brush, paper, tape, crayons, stamps and stamp pads. Today Big Bird (Cookie Monster) is going to share water tubs, dishes, soap, towels and sponges."

Take the items off the board while continuing;

"Have you been sharing these things? Yes, that is why you're invited to the happy party."

Place the teacher on the board. The teacher is saying;

"Oh, look at the way the children are sharing the water tub, soap, and towels! I like it when everyone shares! They make me so happy, that we're going to have a big "happy party" for Big Bird (Cookie Monster)! To get ready for the party, we need to wash all the dishes."

Place the washing tub, rinsing tub, dish drainer, soap, towel, sponge, and dishes one at a time while introducing each item.

"This is the wash tub. This is the rinse tub. Here is some soap, a sponge, towel, and a dish drainer. These are the dishes; a spoon, a cup, and a plate."

Take the items down. Place each item on the board one at a time and demonstrate what the children should do using Big Bird, Cookie Monster, and Ernie taking turns.

"This is the wash tub. Big Bird can wash first. This is the rinse tub. Cookie Monster can rinse first. This is the towel that Ernie can dry with. First, you can squirt some soap into the water, put the dishes in and wash them with the sponge. Cookie Monster can put the soapy dishes in the rinse tub and put them in the dish drainer. Ernie can dry the clean dishes."

Review the story with the children and help them answer the questions;

"Who are we having a happy day for? Yes, the party is for Big Bird (Cookie Monster). Why is Big Bird (Cookie Monster) having a happy day? That's right, because he shares and works with the other children. What has Big Bird (Cookie Monster) been sharing? He has been sharing the dough, rolling pins, paint and paint brushes, tape, paper, stamp, water tubs, sponge, dishes, soap, and towels."

Place each item on the board as the children recall them.

4) <u>Going To The Party</u> - <u>T</u> introduces the finger puppet of Big Bird (Cookie Monster) by saying;

"Who knows who this is? Yes, it's Big Bird (Cookie Monster). Why is Big Bird (Cookie Monster) at school today? That is right, we are having a happy day for Big Bird (Cookie Monster)."

The <u>T</u> places the other finger puppets in front of her while continuing;

"Why are we going to have a happy day for Big Bird (Cookie Monster)? We're having a happy party because Big Bird (Cookie Monster) has been sharing and working with the other children. Who has Big Bird (Cookie Monster) been sharing with today? He has been sharing with Cookie Monster (Big Bird), Grover, Bert, Ernie, and Oscar the Grouch. What kinds of things has Big Bird (Cookie Monster) been sharing?"

Place each item on the board while continuing;

"Big Bird (Cookie Monster) has been sharing the rolling pin, dough, paint, paint brush, paper, tape, crayons, stamps and stamp pads, water

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tubs, dishes, soap, towels, and sponges. Today Big Bird (Cookie Monster) is going to share a plastic sheet, magnets, Bert, Ernie, and Cookie Monster (Big Bird)."

Take the items off the board while continuing;

"Have you been sharing these things? Yes, that is why you're invited to the happy party."

Place the teacher on the board. The teacher is saying;

"Oh, look at the way the children are sharing the plastic sheet and magnets. I like it when everyone shares! They make me so happy, that we're going to have a big "happy party" for Big Bird (Cookie Monster)! Before we can have the party, we need to get Big Bird (Cookie Monster) to the party."

Place Big Bird (Cookie Monster) on one side of the board and the table

with two cookies on the other side of the board while continuing;

"We need to get Big Bird (Cookie Monster) over to the table so we can have the party."

Place the magnet on the board while continuing;

"If we have two magnets we can get Big Bird (Cookie Monster) to the party. Here is a magnet just like the one on the board. Here is another magnet that can stick to the back of Big Bird (Cookie Monster)."

Place Bert, Ernie, Cookie Monster, Big Bird, the cookies, and the

flowers on the board while continuing;

"The magnets will help us get all the children, cookies, and flowers to the party. We will need three people to work together."

Have two other teachers come to the front of the room to hold each side

of the plastic sheet. Show the children how the magnets stick together

by saying;

"If you put the magnets together they will stick together. I will hold the magnet by the handle. Now watch as I show you how to move Big Bird (Cookie Monster) to the party. Now I'll share with another teacher and see if she can get Bert to the party. How many people do you see working together? Yes, there are three people working together. We are taking turns like you will."

Review the story with the children while placing the items on the board

and answering the questions;

"Who are we having a happy day for? Yes, the party is for Big Bird (Cookie Monster). Why is Big Bird (Cookie Monster) having a happy day? That's right, because he shares and works with the other children. What has Big Bird (Cookie Monster) been sharing? He has been sharing the dough, rolling pints, paint and paint rushes, tape, paper, stamp, water tubs, sponge, dishes, soap, towels, and magnets. Do you remember what you're going to do today? Yes, you are going to get Big Bird (Cookie Monster) to his party. How many people are going to work together. That's right, three people are going to work together."

5) <u>Making The Cake</u> - <u>T</u> introduces the construction paper Big Bird (Cookie Monster) by saying;

"Who knows who this is? Yes, it's Big Bird (Cookie Monster). Why is Big Bird (Cookie Monster) at school today? That is right, we are having a happy day for Big Bird (Cookie Monster)."

The <u>T</u> places another construction paper character on the board while continuing;

"Why are we going to have a happy day for Big Bird (Cookie Monster)? We're having a happy party because Big Bird (Cookie Monster) has been sharing and working with the other children. Who has Big Bird (Cookie Monster) been sharing with?"

Place each character, one at a time, on the board while continuing;

"Big Bird (Cookie Monster) has been sharing with Grover, Cookie Monster (Big Bird), Oscar the Grouch, Bert, Ernie, and the Count. What kind of things has Big Bird (Cookie Monster) been sharing?"

Place each item on the board while continuing;

"Big Bird (Cookie Monster) has been sharing the dough, rolling pin, paint, paint brush, dishes, sponge, and soap. Today we're going to share a bowl, spoon, and a cake mix."

Place the teacher on the board. The teacher is saying;

"Oh, look at the way the children are sharing the dough, rolling pin, paint, paint brushes, dishes, and soap. They make me so happy, that we're going to have a big "happy day" for Big Bird (Cookie Monster)! Before we can have the party, we need three people to work together to make a cake."

Place the bowl, cake mix, spoon, water, egg, and muffin pan on the board while showing the <u>Ss</u> how to make the cake while continuing;

"First you need a bowl. You pour the cake mix in the bowl. You add the water and egg then mix. After the cake is mixed, someone holds the funnel while another person pours cake into the muffin pan."

Review the story with the children and help them answer the questions;

"Who are we having the happy day for? Yes, the party is for Big Bird (Cookie Monster). Why is Big Bird (Cookie Monster) having a happy day? That's right, because he shares and works with the other children. What has Big Bird (Cookie Monster) been sharing? He has been sharing the dough, rolling pins, paint and brushes, dishes, and soap. What are we going to make for the happy day? We are going to make a cake. How are we going to make the cake? We will make the cake by taking turns mixing and pouring the cake in the muffin pan. How many children will be working together to make the cake?"

6)   Icing The Cake - T introduces Big Bird (Cookie Monster) by

placing all the Big Birds (Cookie Monsters) in front of her while

continuing;

"Who know who this is? Yes, it's Big Bird (Cookie Monster). Why is Big Bird (Cookie Monster) at school today? That is right, we are having a happy day for Big Bird (Cookie Monster). Let's count all the Big Birds (Cookie Monsters). Why are we going to have a happy day for Big Bird (Cookie Monster) has been sharing and working with the other children. Who has Big Bird (Cookie Monster) been sharing with?"

Place each flannel character, one at a time, on the board while

continuing;

"Big Bird (Cookie Monster) has been sharing with Cookie Monster (Big Bird), Bert, Ernie, and Grover. What kind of things has Big Bird (Cookie Monster) been sharing?"

Place each item on the board while continuing;

"Big Bird (Cookie Monster) has been sharing the dough, rolling pin, paint, paint brushes, dishes, sponge, and soap. Today we're going to share the knives, icing, and dishes."

Place the teacher on the board. The teacher is saying;

"Oh, look at the way the children are sharing the dough, rolling pin, paint, paint brushes, dishes, and soap. They make me so happy, that we're going to have a big "happy party" for Big Bird (Cookie Monster)! Before we can have the party, we need to ice the muffins. We will need three people to work together."

Place the bowl, icing mix, spoon, muffin, knives, and food coloring on

the board while shwoing the <u>S</u>s how to make the icing while continuing;

"First, you need a bowl. You pour the icing in the bowl. You add
the water and mix. After the icing is mixed, you add the food coloring
and stir. You will have to share the icing and muffins while you work
together to ice them. Remember not to eat the icing or muffins because
they are for the party."

Review the story with the children and help them answer the questions;

"Who are we having the happy day for? Yes, the party is for Big
Bird (Cookie Monster). Why is Big Bird (Cookie Monster) having a happy
day? That's right, because he shares and works with the other children.
What has Big Bird (Cookie Monster) been sharing? He has been sharing
the dough, rolling pin, paint, paint brushes, dishes, soap, icing, and
knives. What are we going to make the icing? We will make the icing by
taking turns mixing and icing the muffins. How many children will be
working together?"

Specific Task Instructions

Appendix E details the specific task instructions used during the cooperative lesson task. The instructions vary with the task involved but, are standard in respect to reinforcement and session length.

1)   Making A Present - T directs the S's to the table and asks them to be seated.   Each table contains the materials described in Appendix E.   T instructed the triads;

"I would like to see you work together. Who would like to roll the dough first? I like the way you are taking turns rolling the dough. You have been working well together. Now it's time for someone else to roll the dough. That is nice sharing."

After the S's have rolled out the dough, with the teachers help if needed, the teacher removes the rolling pins and places the paint and decorations on the table while continuing;

"Everyone shared the rolling pins so nice. Who would like to make their hand print first? I will help you press down your hand to help make your hand print. That hand print looks nice. Who would like to be next? Now you're last. You have been waiting your turn. I like the way everyone is waiting and sharing. Now let's share the paint and decorations. Who would like to paint first? Ok, you may paint first while someone else puts on the decorations. Do you think it's time to share the paint? That is nice sharing and working together. This will make a nice present."

PRAISE AND REINFORCE THE CHILDREN FOR SHARING AND WORKING TOGETHER.

2)   Wrapping The Present - T directs the S's to their tables. T says:

"You may take turns using the crayons and stamps to decorate the paper. I like the way you're sharing the stamp pad and paper. You really make me happy when you share and work together."

Verbally and physically reinforce and praise the Ss for working and sharing together. When the Ss have finished decorating the paper, the teacher will put the present and tape on the table. Help the Ss take turns wrapping the paper and sharing the tape. Praise the Ss for working together. Help the Ss put a bow on the present after it is wrapped. Praise the Ss for finishing the task by saying;

"I'm so proud of each of you for working together and wrapping the present. Working together makes you feel good!"

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3) <u>Washing The Dishes</u> - <u>T</u> directs the <u>Ss</u> to the tables. Remind the <u>Ss</u> what to do by saying;

"You can wash the dishes while you rinse them off and put them in the dish drainer. You can dry the dishes. I like it when you work together to clean the dishes."

When it's time to change activities, ask the <u>Ss</u>;

"Who would like to wash now? Who would like to dry? It makes you feel good to work together and share. I like it when you share."

PRAISE THE <u>Ss</u> INTERMITTENTLY FOR APPROPIATE SOCIAL INTERACTION. Have the <u>Ss</u> change activities again so each child gets to do each activity. Praise the children when they have finished by saying;

"I like the way you were working together. Working together makes you happy and it makes me happy too."

4) <u>Going To The Party</u> - <u>T</u> directs the <u>Ss</u> to their chairs. After the <u>Ss</u> are seated continue with;

"Who would like to go first? Ok, you will use the magnet and the other two children will help you hold up the plastic sheet like the two teachers did earlier. I like the way you're holding up the sheet."

Help the <u>Ss</u> hold the sheet up by helping them hold it. Praise the <u>Ss</u> for holding the plastic sheet themselves. Help the child use the magnet to get Big Bird (Cookie Monster) to the table. Praise the <u>Ss</u> for appropriate social interaction by saying;

"I like the way you're working together. You're helping Big Bird (Cookie Monster) get to the party. You're working nice together. Keep up the good work."

Turn the plastic sheet around until all the <u>Ss</u> have had a turn. Praise the <u>Ss</u> for working together. To vary the activity have the <u>Ss</u> try to get several characters, cookies, and flowers to the party. **PRAISE THE <u>Ss</u> FOR WORKING TOGETHER.**

5)   Making The Cake - T directs the Ss to their chairs. After the

Ss are seated continue with;

> "Who would like to pour some of the cake mix in the bowl first?
> Now let's take turns pouring the cake in the bowl. I like the way
> your're sharing! Now I'll put the egg in, while you take turns
> stirring. You sure are sharing nice! We're working together to
> make Big Bird's (Cookie Monster's) happy day cake."

After the cake is mixed, help one S hold the funnel while the another S

pours in some cake mix. The third S may continue stirring. Let each S

have a turn pouring cake into the muffin pan while continuing;

> "I like the way you're sharing! It's fun to work together. Let's
> let someone else have a turn. That is nice sharing!"

6)   Icing The Cake - T directs the Ss to their chairs. After the

Ss are seated continue with;

> "Who would like to go first? Ok, you will pour some of the icing
> mix in the bowl first. Now let's take turns pouring in the mix and
> the water. I like the way you're taking turns. Now let's take
> turns mixing. I'll add some food coloring. You may take turns
> stirring. You are sure sharing nice! We're working together to
> make Big Bird's (Cookie Monster's) happy day cake. That is nice
> sharing."

After the icing is mixed, help the Ss icing the muffins. PRAISE THE Ss

INTERMITTENTLY FOR APPROPRIATE SOCIAL INTERACTION.   USING VERBAL AND

PHYSICAL REINFORCEMENT.

APPENDIX F

<u>Parental Consent Forms</u>

Appendix F represents the parental consent forms. Each parent signed the consent form for their child to participate in the study.

Department of Family and Child Development

Justin Hall
Manhattan, Kansas 66506
913-532-5510

January, 1982

Dear Parents:

My name is Dani Hooper. I am currently working on a Master of Science degree in Family and Child Development at Kansas State University. To complete my degree, I am implementing a eight week program to increase social play among preschool children.

The purpose of this study is to see if a program involving a combination of praise, reinforcement, environmental structure, and a cooperative lesson plan with the children working together on a common task, will produce an increased level of social play among preschool children.

If you have any questions, please call me at 776-3097.

If you are willing to have your child participate, please read the following statement, sign your name, and return the sheet to Sue Tangeman.

Thank you for your cooperation.

Sincerely,

Dani Jo Hooper
Dani Jo Hooper
Master's student

Candie Vlcek
Candie Vlcek
Childrens' Service
Director

Sue Tangeman
Sue Tangeman
Developmental Center
Supervisor

I consent to have my child, _____ _____,
participate in the program to increase the social play among preschool children. If, for any reason, my child becomes uncomfortable with the program and does not want to continue participating, I reserve the right to withdraw him/her from participation.

_____
Date

_____
Parent or Legal Guardian

DEVELOPING SOCIAL PLAY BETWEEN

HANDICAPPED AND NONHANDICAPPED PRESCHOOL CHILDREN

by

Dani Jo Hooper

B.S., Kansas State University, 1980

AN ABSTRACT OF A MASTER'S THESIS

Submitted in partial fulfillment of the

Requirements for the degree

MASTER OF SCIENCE

Department of Family and Child Development

KANSAS STATE UNIVERSITY

Manhattan, Kansas

1982

ABSTRACT

This investigation was undertaken to determine if a program involving an in-service program designed to enhance the use of praise and reinforcement contingent on appropriate social interaction, environmental structure, and a model cooperative lesson plan designed to increase social interaction could be successfully implemented in an integrated preschool program. The study focused on three handicapped preschool children who attended a developmental preschool program. Five other children including nonhandicapped children were also included in the study. A Baseline, Partial Intervention I, Intervention I, Partial Intervention II, Intervention II reversal design was used. Time sampled observations of both the children and the teachers during the self-selected free play period of the program provided evidence for the effectiveness of the program.

During the Baseline period provided their social play was predominately at the "solitary" play interaction level during this phase. In partial Intervention I, with "social" toys were added, phase their social play level rose slightly but remained at the solitary play level. Intervention I began with the in-service program for the teachers and was the full implementation of the program. At this phase the handicapped children's social interaction rose to the "onlooker" level. In Partial Intervention II their play behavior dropped to the "solitary" level. Intervention II involved the return to full application of the program and the children's social play interaction rose to their highest levels. They achieved the parallel play interaction level at this phase and fulfilled the expectations of the research.

Teachers' prompting and reinforcement during Baseline, Partial Intervention I and Partial Intervention II phases in the free play period was minimal. In the Intervention conditions their use of prompts and reinforcements increased markedly. The teachers used more verbal prompts, specific reinforcement techniques and adult-directed activities in Intervention II than in Intervention I. The teacher activities with their high use of prompts and reinforcement, combined with environmental structure, and a model cooperative lesson plan appear to account for the preschool handicapped children's increased social interactions levels in Intervention I and Intervention II.