The influence of teacher behavior on child social participation behavior
by Cynthis McHugh Baxter

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in Home Economics
Montana State University
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Abstract:
This study was designed to investigate the influence of teacher behavior on the social participation of preschool children. It examined how a change in teacher behavior affected the children's social participation behavior.

The study was conducted in three phases, pretraining, training and post-training. Four teachers were observed during the free play period at a university laboratory preschool. Teacher behaviors were observed and coded for approximately 30 minutes, three days a week, for a two week period. Teacher behaviors were coded according to behaviors defined by Fagot (1973). Child behaviors were coded according to the social participation behaviors defined by Parten (1932).

Teacher behaviors which occurred most frequently during the children's cooperative play at the pretraining phase were chosen for training. Training sessions were held following preschool sessions for one half hour, three days a week for a two week period. Included in the training sessions were instructional handouts to guide video-tape viewing and daily feedback for classroom performance of training behaviors. Teacher and child behaviors were coded again during the post-training phase. Post-training data was used for comparisons among the three phases of the study.

Results indicated that the video-tape training was effective in increasing teacher play and observing behaviors. Open-ended questioning did not increase. When teacher behaviors were changed child behaviors also changed. Increased amounts of associative and cooperative play were observed. Parallel and unoccupied behaviors decreased. Cooperative play only increased during the training phase of the study.

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ABSTRACT

This study was designed to investigate the influence of teacher behavior on the social participation of preschool children. It examined how a change in teacher behavior affected the children's social participation behavior.

The study was conducted in three phases, pretraining, training and post-training. Four teachers were observed during the free play period at a university laboratory preschool. Teacher behaviors were observed and coded for approximately 30 minutes, three days a week, for a two week period. Teacher behaviors were coded according to behaviors defined by Fagot (1973). Child behaviors were coded according to the social participation behaviors defined by Parten (1932).

Teacher behaviors which occurred most frequently during the children's cooperative play at the pretraining phase were chosen for training. Training sessions were held following preschool sessions for one half hour, three days a week for a two week period. Included in the training sessions were instructional handouts to guide video-tape viewing and daily feedback for classroom performance of training behaviors. Teacher and child behaviors were coded again during the post-training phase. Post-training data was used for comparisons among the three phases of the study.

Results indicated that the video-tape training was effective in increasing teacher play and observing behaviors. Open-ended questioning did not increase. When teacher behaviors were changed child behaviors also changed. Increased amounts of associative and cooperative play were observed. Parallel and unoccupied behaviors decreased. Cooperative play only increased during the training phase of the study.

CHAPTER 1

INTRODUCTION

Within the past decade there has been a renewed interest in the area of socialization of children. With the current trend of enrolling children in preschools for socialization purposes, preschool teachers are reexamining their programs and their roles as teachers in relation to their social goals for children.

Peer interaction is an important goal within a child's socialization. Social participation, the involvement of a child within a social/non-social context during play, is one type of peer interaction which is commonly found in the preschool setting.

As teachers reexamine their roles in the socialization of children, the effect of their behavior on a child's behavior becomes important. Teacher behavior within the preschool classroom has been studied. Teacher behavior has been shown to influence task persistence, self-esteem, leadership and levels of engagement within planned activities (Fagot, 1973; Thompson, 1944, Phyfe-Perkins, 1981). Since teachers have been shown to influence the behavior of children in these areas, this study sought to show that teacher behavior influences the social participation of children.

Review of Literature

In the review of the literature three topic components of the study will be covered. These three components, play, teacher behavior and video-tape training, have different focuses, which lend themselves to the use of three distinct literature reviews. To cover each component the review has been divided into three main sections.

Play

In this section literature on play is reviewed. Play and its importance to the preschool teacher, the social aspects of play and environmental influences on play are discussed.

"Since the days of Froebel, most teachers have seen play as an essential ingredient in the early childhood curriculum" (Almy, 1982, p. 2). Some of the direct influences of a teacher's perception of play come from the theories of psychoanalysts Erickson, Freud and Isaacs (Almy, 1982). Ideas about play associated with these theories are that "children work out their emotional conflicts in play" and "play develops mastery" (Almy, 1982, p. 3).

Piaget contributes to current ideas on play. Piaget (1962) states that play develops in stages and is a process through which the child intergrates and incorporates experiences. Another aspect of play noted by Piaget (1962) is that the forms of interactions during play change with the stages of play. A child's behavior evolves from initial egocentrisim with collective monologue interactions to

complimentary peer play with interactions employing differentiated roles (Piaget, 1962). These interactions become increasingly more social through the differentiation of roles, addition of rules and mutual agreements among peers.

Because early childhood education is often used to facilitate socialization, it is important to look at the child's social play behaviors in relation to the preschool (Huston-Stein, Freidrich-Cofer and Susman, 1977). Recent research has been conducted on many different variables related to social behavior. One variable which has been studied is social participation.

Social participation studies have primarily been based on Parten's (1932) study. In looking at differences in interactions of children, Parten identified differences in the social participation of the children. Two variables which Parten studied were the kind of group the child participated in and the role of the child in the group. Through looking at the kind of group organization and integration (i.e. whether the group was organized in such a way that certain duties and responsibilities were demanded of its members, or whether it was a congregation of independent players), Parten developed a scale of social participation. The groups of social participation were defined as follows:

Unoccupied - the child is not playing;

Onlooker - the child is watching others play;

Solitary - the child plays alone;

Parallel - children play side by side with no interaction;

Associative - children play side by side with interaction but no group goal;

Cooperative - children play together to gain a group goal and use differentiated roles.

Parten (1932) studied 42 children between the ages of 2 and 5 using this scale and found quantitative and qualitative differences in the children's play. Using percentages of time, she found individual differences in the proportion of time each child was observed in various types of participation. Parallel play was the most frequent type of play (Parten, 1932).

Parten selected data on 34 children for further analysis. Correlations between rank order scores of the children and their ages were high and negative for less social play types; solitary -.58, parallel -.71, unoccupied onlooker -.71. High and positive correlations were found between age and more social groups, associative .51 and cooperative .67. Changes over time shows unoccupied, solitary and onlooker behaviors were less prevalent at the end of the study. Mean frequencies of associative play doubled by the end of the study and cooperative play increased from a mean frequency of 2.5 to 3.6. This indicates that, although differences were not statistically significant, the trend of change is consistant toward more social types of participation.

Differences in social participation in relation to age were also found by Peter K. Smith (1978). Smith conducted a 9 month longitudinal study comparing two groups of nursery school children in England. The play of 48 children, 12 boys and 12 girls in each group,

was studied. Smith used Parten's scale by making a combined category of associative and cooperative play called group play and adding a category called adult play to record non-peer interaction. Smith's results were similar to Parten's. They showed a consistent increase in group and decrease in solitary and unoccupied behaviors over time. Differences over time were significant at the .001 level.

The effect of the preschool environment on children's play behavior has also been studied. Three non-physical variables within the preschool environment which have been studied are educational orientation, classroom structure and curriculum differences.

The educational orientation of the nursery school affects a child's play behavior. Tizard, Philips and Plewis (1976) looked at differences in children's behavior among three types of nurseries programs in England. Traditional nurseries, language-emphasized nurseries and nurseries staffed with untrained personnel were studied. The two types of play that were examined in the 109 children were symbolic play and "appropriate" play, play which exploits the properties of the materials and does not involve a symbolic theme. Tizard et al. reported that the traditional nursery had proportionally the most "appropriate" play and least symbolic play. In special language-emphasized classrooms, children used dramatic impersonations more frequently. Tizard et al. discuss that the reason for differences may be related to differences in the direction of staff focus. In setting up activities in the three types of schools, teachers focused on different types of activities dependent on the focus of orientation. The focus of these activities sometimes left less opportunity for

certain types of play to occur.

Classroom structure was studied to determine its relationship to the naturally occurring behaviors of the children. Huston-Stein et al. (1977) studied classroom structure in 13 Headstart classrooms through observations using an index of teacher-led activity to independent child activity. A second index of structure based on teacher characteristics and practices was also used. Child behaviors found to be significantly correlated with a low level of direct instruction were as follows: prosocial behaviors to peer, $p < .10$; helping peers, $p < .05$; imaginative play, $p < .05$ total aggression, $p < .05$ and attention at circle time and responsibility for clean up time both $p < .05$. From these figures it would seem that allowing the child freedom to interact can increase positive behaviors.

The play of children in two different educationally based curricula has been compared. Johnson and Ershler (1981) looked at the differences in play between two classrooms, a formal education classroom based on Ausubel's theory and a discovery-based classroom based on Piaget's theory. A combination of Parten's scale (1932) and Simlansky's cognitive scale (1968) was used to analyze the children's play. Parten's categories of associative and cooperative play were combined into an interactive group. The three categories of play Simlansky used were functional - routine and simple motoric play; constructive - sequenced organized purposeful behavior; and dramatic - child transforms own identity of that of objects, situations or friends. One of Simlansky's categories and one of Parten's categories were recorded for the same time period. Using this combined scale, 26 children

attending the two classrooms were observed over a period of 16 months. The formal education classroom used a combination of small group and one free play period while the discovery classroom used two planned free play periods. Observations were made during the free play periods. Analysis of overall time changes revealed that, across classrooms, dramatic interactive play significantly ($p.<.01$) increased. When social levels were summarized, constructive play showed a drop in frequency of occurrence ($p.<.01$). Children in the formal classroom displayed more dramatic parallel play than children in the discovery class ($p<.05$). The discovery classroom had more functional interactive play ($p<.01$) and overall, more functional play ($p<.01$). Classroom differences over time showed that the children in the formal classroom decreased in constructive play and the children in the discovery classroom increased in constructive play at the $p<.01$ level. Johnson and Ershler noted that overall interactive play was more common than parallel play. In summarizing they also note that future research might investigate "the process by which program effects on play occur by attending to specific curriculum content and teacher behaviors" (Johnson & Ershler, 1981, p. 1004). This information might be useful in facilitating the attainment of educational goals in the social and cognitive components of play (Johnson & Ershler, 1981).

Social and cognitive components of play have been shown to be influenced by some environmental variables in preschools. Social participation is just one component of play which is important to the preschool teacher.

Teacher Behavior

The second component of the study to be covered in this review is teacher behavior. In this section teacher behavior, its effect on the child, and how these behaviors have been studied will be discussed.

Teachers do affect children in the early childhood classrooms (Phyfe-Perkins, 1981). Three of the ways in which teachers affect children are in a stimulus response mode, through their directions and through their participatory role in activities.

The role which teachers have in supplying a stimulus type effect on the child's response behavior is a powerful one (Buell, Stoddard, Harris and Baer, 1968). Social reinforcement provided by the teacher has been studied in relation to the response of the preschool child (Buell et al., 1968; Rintoul, Cooper, Schilmoelle and LeBlanc, 1975). Teacher verbal behaviors in the form of social primes, which are suggestions to interact socially with another child, increase a child's interactions with his peers (Goetz, Thompson and Etzel, 1975). Peer interactions are also shown to increase when teacher verbalizations decrease and social primes increase (Rintoul et al., 1975).

The teacher's directive role in the classroom has been an influence on a child's behavior. In Phyfe-Perkins' (1981) review of literature on effects of the preschool teacher behavior in the classroom, studies on the amount and type of teacher direction have been reviewed. Studies reviewed show that high levels of direct instruction and asking direct questions were negatively correlated with observed

levels of children's cooperation, independence and verbal initiative. Although studies point to the negative aspects of directive behavior, Phyfe-Perkins noted two specialized cases of teacher direction which indicate the importance of the context of the direction. Teacher-structured dramatic play significantly increased child to child interactions in a group of handicapped children. The teacher, rather than adopting a role in the play, assigned children roles which were then carried without adult interference. Also, some children sought out small group activities with teacher direction.

The participatory role of the teacher in the play of children is noted by Phyfe-Perkins as affecting the child's behaviors. The literature appears to support positive outcomes for children where adults interact with them in a child-centered, non-directive manner. In a study noted by Phyfe-Perkins (1981), adults facilitated dramatic play by assuming a non-directive role in the play, and becoming another player in the experimental group. The group with the role playing teachers far exceeded the control group in effectively cooperating in solving problems as a group. In a second study of two daycare environments, it was found that in the classrooms in which adults participated more and directed less, children exhibited higher levels of cognitive play, task involvement and verbal initiative (Phyfe-Perkins, 1981).

Preschool teacher behavior studies have primarily viewed teacher behavior in two ways. Behaviors have been studied as a single part of the teacher's behavior influencing a child's behavior, such as Thompson's (1944) study of the emotional characteristics of teacher behavior

influencing the child's social behavior. Teacher behaviors have also been studied as a general set of classroom behaviors influencing a more general characteristic of the child, such as Fagot's (1973) study of preschool teacher behavior's influence on task performance of the child.

The difficulty with most scales measuring preschool teacher behaviors is that in studying only one aspect of the teacher's behavior the totality of their behaviors is ignored. Fagot (1973) noted that the difficulty with studies of more than one behavior was that the instruments used were more appropriate to the elementary school and therefore difficult to use in the less structured preschool environment.

Fagot produced a code with 14 teacher behaviors designed to compare the task behavior of children among three preschools. She found that in all instances of classroom differences, the class with the highest percentage of nontask behavior differed significantly from the other two classes. The teachers in the low task group criticized more ($p<.01$), gave information rather than responding to the child's questions ($p<.01$) and gave more physical comfort ($p<.01$).

Fagot (1973) stated the following:

> much research on teaching has concentrated on the learning of specific skills and behaviors and for this type of learning it is probably true that highly structured environments in which the child's responses are controlled by the teacher is the most efficient way to learn. However education should be more than learning of simple skills. (p.206)

Examining the teacher's ability to affect the general abilities of the child would be a more applicable way of reaching a preschool ideal of generalizable social skills for the child.

Teacher behavior does affect the child's behavior. Three of the ways are in stimulus response modes, though direction and their participation in activies. How research looks at teacher behavior is important because if we want to affect a general skill of children some ways of researching teacher behaviors may be more effective than others.

Video-tape Training

The third component in the literature review is video-tape training. Research has been conducted on how to modify teacher behavior through video-tapes. Techniques of modification using the concept of modeling (a video-taped teaching episode emphasizing a specific teaching behavior) have been developed and researched (Young, 1969). Young's (1969) review of the literature and theories of modification of teacher behavior using video-taped models in a microteaching sequence discusses the effectiveness of video training. Video-tape models are effective when discrimination viewing is available and positive incidences of teacher behavior have greater transfer to actual lessons.

In discussing the effectiveness of modeling, Young notes that studies on the perceptual versus the symbolic model have been conducted. The perceptual model is the video-taped teaching sequence and the symbolic model is a written description of the desired teacher

behavior with a detailed descriptions and rationale. Studies investigating the relative effectiveness of these models show that teachers (interns) viewing the perceptual model incorporate more of the modeled teacher behaviors than those teachers with only the symbolic model. A combination of the two models was more effective than either alone.

Viewing the video-tape with discrimination or supervised guidance of the teacher has been shown to make a difference in the effectiveness of the modeling (Young, 1969). The most effective viewing procedure involved a supervisor who reinforced the desired behaviors and made suggestions on alternate forms of the desired behavior. Self-instructional models, which used audio or visual cues on the tape to provide the reinforcement and discrimination previously provided by the supervisor, proved to be significantly more effective than a model with non-cued focus (e.g. written directions and explanations of the behavior). The latter produced no behavior changes.

Young (1969) also notes that studies on the effectiveness of positive versus negative models show that a positive model alone is more effective. In showing a model of a desired behavior and a model with a desired and undesired behavior to two groups of teachers, effectiveness of the positive model became evident when teachers attempted to incorporate the behavior in their lessons.

Teacher behaviors have been shown to be modifiable through use of a video-taped model. The use of the discriminate viewing adds to the effectiveness as well as use of the positive model.

Rationale for this Study

Preschool environments are designed to stimulate and enhance social and intellectual development of young children (Goetz et al., 1975, Beehler et al., 1974). Teacher behavior has been frequently studied as part of the environment. Many studies, however look only at one part of a teacher's behavior and its relationship to one aspect of child behavior (Fagot 1973). Fagot noted that such studies were inadequate when attempting to describe behaviors through which a teacher could work on influencng a child's general abilities rather than one specifc skill.

This study attempted to describe a range of preschool teacher behaviors which influence a child's social participation as defined by Parten (1932). The purpose of this effort is to help teachers to view their own behavior in relation to its effect on a child's social participation.

Social behaviors associated with play have been linked to cognition in the forms of problem solving (Rosen, 1974), role taking abilities and classifying (Rubin & Maioni, 1975) as well as certain types of social participation. Therefore, teachers could potentially influence students by changing their own behavior.

Statement of the Problem

The purpose of this study was to identify teacher behaviors which occurred in a preschool setting while children participated in the designated free play time. It was designed to show the relationship

between teacher behavior and 4 year old children's social participation behavior as defined by Parten (1932) and to change teacher behavior through a video-taped training procedure. The effect of teacher behavior changes on child behavior was examined.

Hypotheses

There were 2 null hypotheses that were addressed by this study:

1. Teacher behaviors do not influence the social participation behavior of children.
2. The social participation of 4 year old children will not change when teachers are trained to perform certain behaviors.

Research Hypothesis

There were two research hypothesis that were addressed in this study:

1. Teacher behaviors do influence the social participation behaviors of children.
2. The social participation of 4 year old children will change when teachers are trained to perform certain behaviors.

Assumptions

1. In this study it is assumed that teacher behavior in the classroom affects child behavior to some degree in a stimulus-response type mode.
2. Teachers are assumed to be capable of and willing to change their behaviors.

Limitations

1. This study was limited to those events which occurred only during the designated free play period.
2. All children in the study came from white middle socioeconomic status families and were enrolled in a university laboratory preschool.
3. The number of trained teacher behaviors to be investigated was limited to three.

CHAPTER 2

METHOD

Design of This Study

The design of this study was a pretest - post-test design with a training period between pretest and post-test. The study was divided into 3 basic data collection and analysis phases: pretraining, training and post-training. Pretraining baseline data was used to determine the behaviors used in the training procedure and to provide baseline data for comparisons.

A six day training period was conducted following the pretraining baseline data collection period. The training consisted of the four teachers viewing a video-taped teaching sequence which showed an unfamiliar teacher modeling positive examples of observing, participating in play and asking open-ended questions, the three behaviors chosen for the training. The twenty minute tape was viewed by the teachers as a group with a supervisor providing cues during the viewing to the behaviors. Two instructional handouts were used to provide further cueing to the behaviors on the tape (see Appendix A). Teachers viewed the tape three times with one teacher being absent for the third viewing. The viewings took place during the first, third and fifth training sessions. Training sessions lasted approximately one half hour including discussion time after viewing the tape.

Daily reinforcement for use of the training behaviors was given to each teacher at the end of the class time by the supervisor. Anecdotal records showing positive child responses or unique techniques used by the teachers were discussed by the group daily.

During the training period, data collection was continued in the same format as the pretraining collection. Teacher behaviors and child behaviors were observed and coded for approximately 30 minutes over a two week period. Data was used to make comparisons of teacher behavior changes and to note any changes in child behavior.

The third section of the study was the post-training data collection period. Following the training, teacher behavior was no longer reinforced by the superivisor. Data collection followed the same format as used in the previous two collections. Analysis followed to determine the extent of sustained teacher behavior change and the relative effect on the child's social behavior.

Subjects

Teachers: this study involved four preschool teachers, who taught in the 4-year-old group at the Child Development Center at Montana State University. Teachers, deemed qualified to work with young children by the director of the center, were chosen to participate in the group by the director. Selection of teachers was made independent of this study.

Children: children participating in the preschool program were between the ages of 4 years, 4 months and 5 years, 4 months at the beginning of the study and had been members of the class for the

previous 3 months. The class met on Monday, Wednesday and Friday for 2½ hours. The children attending the school were from white middle socioeconomic status families.

Data Collection

The method of data collection was based on Bijou, Peterson and Ault's (1965) method of integrating descriptive and experimental field studies. A frequency tally was used to record data during the data collection periods.

Bijou et al. state: "The measure of frequency is preferable to duration, intensity and latency because it measures readily changes over short and long periods of observation, it specifies the amount of behavior displayed and is applicable to operant behavior across species" (p. 176). Environmental and behavioral events to be recorded were in two general categories: teacher behavior and child behavior.

Observations

Two observation techniques were used in data collection in this study: time sampling and rotation.

Time sampling. This is the technique of observing a particular subject for a precise time unit, then recording the behavior displayed by that subject. In this study two observers were used for the same 3 second time period. One observer watched and recorded the behaviors displayed by the teacher and the other observed and recorded the behaviors of the children in the area with the teacher. The observer

recorded the first behavior displayed by the teacher in the three second time period. For each group of children the predominant play behavior during the three second time period was recorded. The amount of time needed to record, established in the pilot study, was approximately 10 seconds. This procedure was repeated for at least 10 consecutive 3 second intervals. The recorded data then served as a representative sample of that teacher's general behavior and the general behavior of children within that area. Both Parten (1932) and Fagot (1973) used time sampling in their studies.

Rotation. In this study a teacher was observed for at least 10 consecutive 3 second intervals. The observer then rotated to a new teacher at random until all four teachers had been observed for approximately 600 intervals or approximately 30 minutes over a period of 6 school days. The observer recorded the teacher's name, time of day, the area of the classroom the teacher was in, and the specific teacher behavior being performed. The child observer also recorded the teacher's name, time, area of the classroom in addition to the child's social behavior.

Pilot Study. Both the time sampling and rotation procedures were set up in a 6 day pilot study. The pilot study was conducted to establish teacher and child behavior categories as well as to check the inter-observer reliability. The observers were trained for a two hour period coding from video tapes. An inter-observer relability of 92.5% for the teacher behaviors and 98% for the child behaviors was established in the pilot study.

Inter-observer Reliability. Inter-observer reliability was calculated in this study the first day of each collection period. Both observers recorded the same set of behaviors, either teacher or child, for the same 50, 3 second time intervals. Reliability was calculated for the 50 intervals by dividing the number of agreements by 50 and then multiplying that number by 100. For the teacher behavior coding a reliability of between 98% for the pretraining and training and 92% for the post-training was maintained. A reliability for the child behaviors of between 100% for the training and post-training and 98% for the pretraining was maintained.

Procedures for Data Collection

In this section the basic collection procedure is described and information on the coding sheet is provided. This study was based on a pretest, post-test design dividing the study into three major components. Three data collections occurred: pretraining, training, post-training. Data collection occurred during the indoor free play time of the preschool.

Teacher Behavior

The behaviors of each teacher were coded according to a numerical system for 10 consecutive 3 second coding intervals. During each set of intervals the observer watched a particular teacher for 3 seconds then coded her teaching behavior. In the following 7-10 seconds the observer recorded the behavior on the coding sheet (see Appendix B). The coding continued for at least 10 consecutive coding intervals,

then the rotation to the next available different teacher occurred. The specific teacher behaviors were adapted from Fagot's (1973) study and validated in the pilot study. Behaviors, coding numbers and definitions adopted for this study are as follows:

1 OBSERVING - Teacher is physically away from children and less available for interaction with the children. Watching the children is her primary activity.

2 NOT INTERACTING - Teacher is near children and available for interaction with the children but is not involved in any form of interaction with the children.

3 INTERACTING -

3-1 LISTENING - Teacher is involved in an interaction with a child or children who are directly speaking to her.

3-2 GIVING INFORMATION - Teacher verbally gives information not attempting to change the child's behavior.

3-3 ASKS ACADEMIC QUESTION - Teacher asks questions expecting a particular response or a simple yes, no answer.

3-4 ASKS QUESTION OPEN-ENDED - Teacher is asking general questions which do not elicit a particular response.

3-5 DIRECT/REDIRECT - Teacher is attempting to change a child's behavior through verbal or physical directions.

3-6 SOLICITATE - Teacher attempts to verbally or physically direct a child to another play area.

3-7 COMMENTS POSITIVELY - Teacher makes positive verbal comments about a child's actions or products.

3-8 CRITICIZES - Teacher shows disapproval, verbally or through physical action, of a child's actions.

3-9 PLAYS - Teacher actively participates in play situation with children.

3-10 HELPING - Teacher is involved in aiding a child with a maintenance task (e.g. tying their shoe, stapling papers).

3-11 TOUCHING - Teacher is interacting with a child by physically touching them, usually in an attempt to comfort them.

3-12 OTHER - Teacher behaviors which may not be categorized in any other group were placed here.

Since this study was concerned with teacher behavior in relation to a child's social play behavior, teacher behavior was coded only when the teacher was in the approximate play area of the children or appeared to be responsible for the children in a play area and when only one teacher was interacting with a group of children. Teacher behavior was not recorded when the teacher was not near any children or did not appear responsible for a play area of children.

Child Social Participation Behaviors

Child behaviors were coded by a second observer for identical time intervals with teacher behaviors. During 10 consecutive coding intervals children's social participation behaviors were recorded on the code sheet (see Appendix B). Codes consisted of the first letter of the category (i.e. u for unoccupied). Children within the area of the teacher's responsibility were coded. While the "teacher" observer was observing the teacher for 3 seconds and recording teacher behavior,

the "child" observer was observing the children in the area and recording social participation behavior. The specific child behaviors which were observed were adopted from Parten (1932). Behaviors were tested in the pilot study. Behavior definitions along with codes used for this study are as follows:

U - UNOCCUPIED - The children apparently are not playing at all but occupy themselves with watching anything of momentary interest.

O - ONLOOKER - The children spend most of their time watching others at play. The child may talk with others but does not overtly enter the play.

S - SOLITARY PLAY - The children play alone and independently, each with toys that are different from those used by other children within the same are.

P - PARALLEL PLAY - The children play independently, but use similar toys and the activity brings them among each other but there is no attempt to influence the activity to others. There is very little if any interaction. Play is "beside" rather than "with" others.

A - ASSOCIATE PLAY - The children play with other children. There is interaction among the children, borrowing and lending materials but all engage in similar if not identical activity. There is no division of labor or organization of

activity. Each child acts as they wish not as the group may dictate.

C - COOPERATIVE PLAY - The children play as a group that is organized for the purpose of obtaining a group goal, or dramatizing adult situations, or formal games. Each child within the group has an identifiable role. There is a division of labor established.

Since this study was concerned with the relationship between teacher behaviors and child social participation behaviors, only children who were involved in an area where a teacher was being recorded were coded. Any behaviors where more than one teacher was interacting with children were not recorded.

Analysis of Data

Analysis of data were performed twice during the study. The first analysis took place following the pretraining session. The second analysis followed the post-training session.

First the behaviors were tabulated from the code sheets. The raw frequencies of occurrences of child behavior with occurrences of teacher behavior for the same three second coding interval were tabulated. The frequencies were then figured into percentages in order to choose the training behaviors.

The second set of analyses, following the post-training, involved tabulating individual and totals of teacher behaviors and child behaviors for each phase of the study. Frequencies for both teacher behavior and child behaviors were calculated as percentages. A chi square test for independence was performed between teacher behavior and phase of the study. Comparisons among the phases of the study were made for teacher behavior and child behavior.

Concurrent occurrence of teacher behaviors and child behaviors were tabulated for all three phases of the study. Frequencies were then calculated as percentages.

CHAPTER 3

RESULTS

The results of this study fall into three main categories. Two teacher training behaviors were increased using a video-taped training method. The influence of teacher behavior on children's social participation behavior was shown. The children's social participation did change when teachers were trained to perform certain behaviors.

Descriptions of Teacher Behavior

The first step in overall analysis was to tabulate teacher behavior for each phase of the study. The results of the tabulation of teacher behavior for each phase are shown in Table 1. Tabulations are shown as proportional distribution of behaviors for each phase expressed in terms of percentages and number of occurrences.

An even sampling distribution of teacher behaviors from each phase of the study was recorded. Of the 7225 observations recorded 33.3% were made in the pretraining session, 33.4% in the training session and 33.2% in the post-training.

The results of the totaled teacher behaviors for all the phases show an overall pattern in teacher behavior. For the group as a whole, 2.5% (2131 behaviors) of the teachers' behaviors were not

Table 1. Number of occurrences of Teacher Behavior for each phase of the study expressed in percentages.

	Pretraining	Training	Posttraining	Total
Observing*	2.7[1] (66)[2]	8.2 (199)	18.5 (445)	(710) 9.8[3]
Not Interacting	31.5 (760)	29.8 (720)	27.1 (651)	(2131) 29.5
Listening	22.1 (532)	17.5 (422)	17.3 (414)	(1368) 18.9
Giving Information	12.0 (288)	10.9 (264)	8.8 (210)	(105) 10.5
Academic Questions	10.7 (258)	8.0 (194)	7.4 (178)	(630) 8.7
Openended Questions*	2.7 (66)	2.2 (54)	2.4 (57)	(177) 2.4
Direct/Redirect	7.5 (181)	7.4 (179)	5.9 (142)	(502) 6.9
Solicitate	.2 (5)	.0 (1)	.1 (3)	(9) .1
Comment Positively	4.9 (117)	3.1 (76)	2.7 (65)	(258) 3.6
Play*	1.8 (44)	10.1 (243)	6.5 (155)	(442) 6.1
Helping	2.3 (56)	2.1 (50)	3.2 (77)	(183) 2.5
Touching	.2 (6)	.1 (3)	.1 (3)	(12) .2
Other	1.2 (30)	.5 (11)	.0 (0)	(41) .6
Total Frequency	2409	2416	2400	7225

* Behaviors which were used in the training sessions
1. Percentage of occurrences
2. Number of occurrences
3. Pecentage of total occurrences

interacting (C200)[1], making it the most frequently occurring behavior overall. Only one teacher behavior, criticizing (C308) did not occur at any time during the study. Together four of the behaviors, not interacting (C200) (29.1%), listening (C301) (22.1%), giving information (C302) (18.9%) and observing (C100) (9.8%), accounted for 68.7% or roughly two thirds of the teacher behaviors.

Pretraining

Results from analysis of the pretraining data were used to choose the behaviors for the training sessions. Frequencies of occurrence of teacher behavior were totaled in relation to occurrence of child behavior. Specifically, occurrences of cooperative play with teacher behaviors were chosen. Observing (C100) (2.7% of the time), play (C309) (1.8%) and openended questioning (C304) (2.7%) were chosen on the basis of their frequency of occurrence with cooperative play. The proportional distribution of child behavior for teacher behaviors for the pretraining phase of the study is shown in Table 2. For each of the training behaviors there was a high percentage of occurrence with the child behavior of cooperative play as can be seen in Table 2. Seventy five percent of the time during the pretraining when teachers were observing (C100), children were involved in cooperative play. Likewise, when teachers were coded as playing (C308), 48.3% of the time children were cooperatively playing. For openended questioning

[1] Teacher behavior numerical codes will be written following the teacher behavior term in order to indicate the teacher behaviors used in this study.

Table 2. Proportional distribution of child behaviors across categories of teacher behavior during the pretraining expressed in percentages and number of occurrences.

	Unoccupied	Onlooker	Solitary	Parallel	Associative	Cooperative	Total Occurrences
Observing*	0%[1] (0)[2]	2.9% (2)	7.1% (5)	7.1% (5)	7.1% (5)	75.7% (53)	(70)
Not interacting	4.1% (40)	8.9% (87)	24.8% (242)	28.8% (281)	18.9% (184)	14.5% (141)	(975)
Listening	5.7% (39)	8.9% (61)	26.9% (185)	22.0% (151)	23.6% (162)	13.0% (89)	(687)
Giving Information	4.2% (15)	11.1% (40)	26.0% (94)	25.8% (93)	19.7% (71)	13.3% (48)	(361)
Academic Questions	5.8% (19)	13.5% (44)	24.5% (80)	27.5% (90)	16.5% (54)	12.2% (40)	(327)
Openended * Questions	7.2% (6)	8.4% (7)	22.9% (19)	15.7% (13)	21.7% (18)	24.1% (20)	(83)
Direct/Redirect	5.3% (13)	12.7% (31)	23.7% (58)	24.9% (61)	16.3% (40)	17.1% (42)	(245)
Solicitate	16.7% (1)	0% (0)	33.3% (2)	16.7% (1)	.0% (0)	33.3% (2)	(6)
Comment Positively	5.4% (8)	9.5% (14)	23.8% (35)	25.8% (38)	21.1% (34)	14.3% (21)	(147)
Play*	.0% (0)	20.0% (12)	18.3% (11)	6.7% (4)	6.7% (4)	48.3% (29)	(60)
Helping	2.8% (2)	12.7% (9)	25.4% (18)	38.0% (27)	12.7% (9)	8.5% (6)	(71)
Touching	50.0% (5)	10.0% (1)	10.0% (1)	.0% (0)	10.0% (1)	20.0% (1)	(10)
Other	.0% (0)	3.2% (1)	41.9% (13)	48.4% (15)	3.2% (1)	3.2% (1)	(31)

* Behavior used in Training Sessions

[1] Percentage

[2] Number of Occurrences

(C304) the percentage was slightly lower. Twenty four percent of the time when teachers were using openended questioning (C304), children were involved in cooperative play.

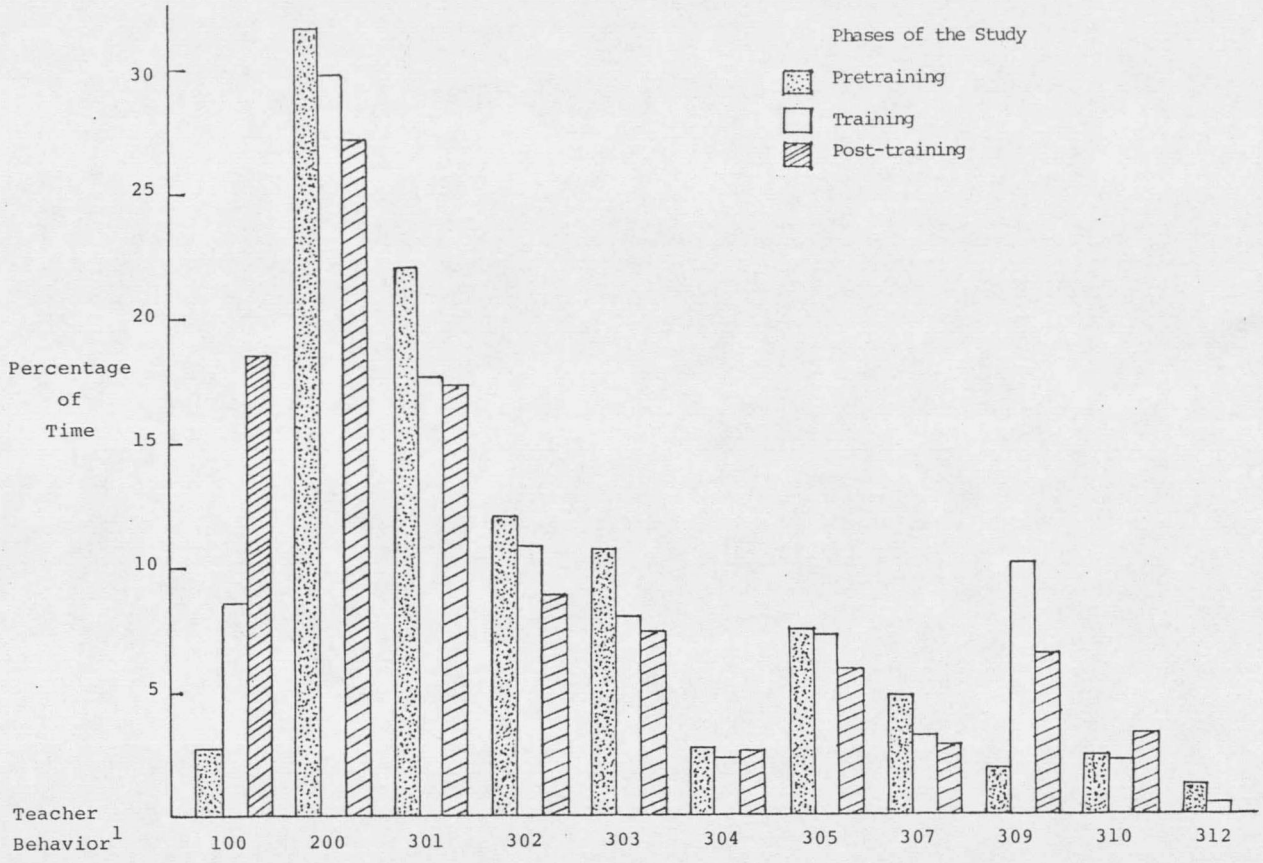
Training

During the training phase of the study, two of the trained behaviors increased and one remained relatively the same. The percentage of time for each teacher behavior code for the three phases of the study is illustrated in Figure 1. The changes from pretraining to training to post-training can be viewed in terms of percentage in Figure 1. Observing (C100) increased from occurring 2.7% of the time during the pretraining to 8.2% of the time during the training. Play (C309) also increased from 1.8% of time during the pretraining to 10.1% during the training. Openended questioning (C304) remained relatively stable at 2.7% during pretraining to 2.2% during training.

Post-training

The changes in teacher behavior from training to post-training are illustrated in Figure 1. The training behaviors continued to change in frequency during the post-training phase. Observing (C100) continued to increase in frequency from 8.2% to 18.5% of the time. Play (C309) on the other hand decreased in the post-training from 10.1% to 6.5%. Openended questions (C304) again remained relatively stable, 2.2% during training to 2.4% during post-training.

The largest overall change in teacher behavior occurred in observing (C100) from 2.7% during pretraining to 18.5% during post-training, an increase of 15.8% overall. The increase of 8.3% in play (C304)



[1] Teacher behavior codes 100=observing, 200=not interacting, 301=listening, 302=giving information, 303=academic questions, 304=openended questions, 305=direct/redirect, 306=solicitate, 307=comment positively, 308=criticize, 309=play, 310=helping, 311=touching, 312=other.

Figure 1. Percentage of time for teacher behaviors during the three phases of the study. (Behaviors 306,308 and 311 were omitted from this figure because they totalled less than .3% of the data).

from pretraining to training was the second largest to occur.

Other teacher behavior changes from pretraining to post-training include a decrease in listening (C301) (22.1% to 17.3%) and in giving information (C302) (12% to 8.8%). A slight decrease was seen in asking academic questions (C303) (10.7% to 7.4%), direct/redirecting (C305) (7.5% to 5.9%), and commenting postively (C308) (4.9% to 2.7%). Helping (C310) was the only other behavior other than training behaviors to increase (2.3 to 3.2). Other behaviors remained relatively equal in percentage of time across the three phases.

Relation of Teacher Behavior to Phase of Study

A chi square test was used to determine if occurrence of teacher behavior differed from one phase (pretraining, training, post-training) of the study to another. The chi square statistic was used to indicate the nature of the relationship between teacher behavior and the three phases. The test for independence between all teacher behavior and the phases of the study was found to be significant (chi square (df=24) = 554 $p < .0001$). Since the chi square figure differed significantly from chance, the variables of teacher behavior and phase of study are not independent. The chi square test indicates that training had an effect on the teacher's behavior.

Another indication of the effect of the training on teacher behavior can be seen in the relative amount of occurrence of behavior for each phase as seen in Table 3. Sixty two percent of all the observing (C100) behaviors occurred in the post-training, while only

28% occurred in the training and 9.3% in the pretraining. When considering the play (C309) behaviors, 55% took place during the training phase and 35.1% took place in the post-training phase. Approximately 90% of the play (C309) behaviors occurred after the training took place. Openended questioning (C304) was evenly distributed across the three phases.

Table 3. Distribution of training behavior across phases of training expressed in number of occurrence and percentage.

	Pretraining		Training		Posttraining	
	number	%	number	%	number	%
Observing	66	9.3	199	28.0	445	62.7
Openended Questions	66	37.3	54	30.5	57	32.2
Play	44	10.0	243	55.0	155	35.1

Descriptions of Child Behavior

The child behaviors for each phase of the study and overall totals were examined next. Of the total number of occurrences for all phases of the study the most commonly occurring child behavior was associative play, which occurred 27.05% of the total time. Solitary play was the second most common with 25.5% of the frequencies, while parallel and cooperative play occurred 17.9% and 16.5% respectively.

Pretraining

Patterns of occurrence can be seen when the phase of the study in relation to child behavior is examined. Table 4 displays the number

of occurrences and occurrences in terms of percentages for child behaviors for each phase of the study. In the pretraining session parallel and solitary play behaviors occurred most frequently (25.8% and 24.8% respectively). Cooperative play occurred 15.8% of the time during the pretraining session.

Table 4. Number of occurrences and percentage of child behaviors for each phase.

	Pretraining		Training		Posttraining	
	number	%	number	%	number	%
Unoccupied	148	4.7%	79	2.4%	41	1.3%
Onlooker	309	9.9%	335	10.4%	320	10.1%
Solitary	773	24.8%	782	24.2%	874	27.6%
Parallel	798	25.8%	440	13.6%	468	14.8%
Associative	593	19.0%	1015	31.5%	964	30.4%
Cooperative	494	15.8%	576	17.9%	499	15.8%
TOTAL	3114	100%	3227	100%	3116	100%

Training

Changes in child behavior from pretraining to training can be seen in Figure 2. Associative play occurred 31.5% of the time, which made it the most frequent type of play during the training phase.

Changes in child behavior from pretraining to training showed increases in some behaviors and decreases in others. While unoccupied behavior dropped during the training from occurring 4.7% in pretraining

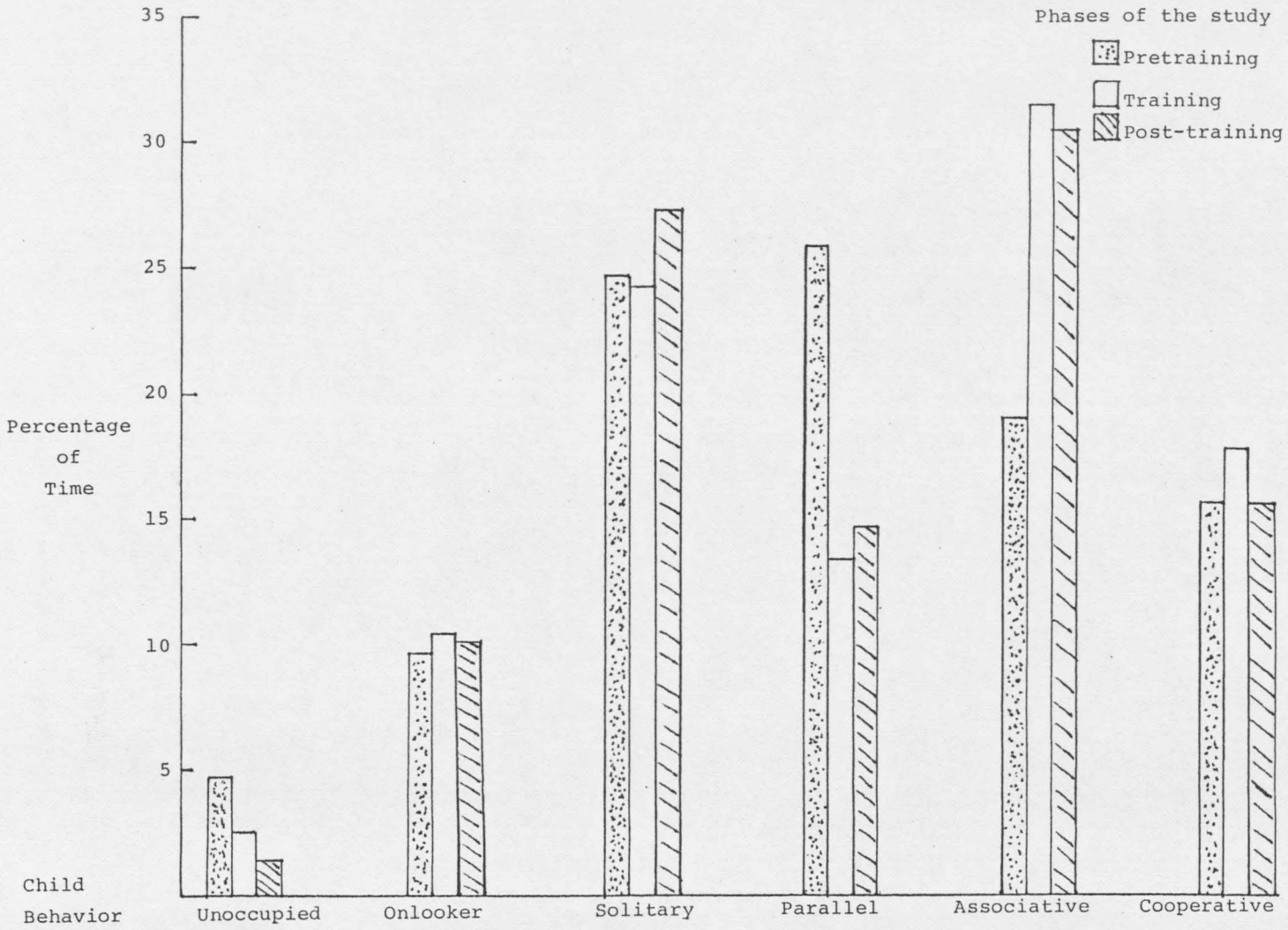


Figure 2. Percentage of time for child behaviors during the three phases of the study.

to 2.4% during the training, onlooker behavior remained relatively same throughout all phases of the study. Solitary play remained high during the training phase, occurring 24.2% of the time. Parallel play behavior dropped dramatically from 25.8% to 13.6%. The increase in associative play was from 19% to 31.5%, while cooperative play also increased from 15.8% to 17.9% during the training.

Post-training

Child behaviors continued to change during the post-training phase of the study as seen in Figure 2. In the post-training phase, associative play remained the highest occurring child behavior. Unoccupied behavior continued to drop to a low occurrence of only 1.3% of the time. Solitary play increased slightly in the post-training to 27.6%, making it the second most frequently occurring behavior during the post-training. Parallel play increased following the training from 13.6% to 14.8% of the time. Both associative and cooperative play dropped slightly in the post-training. Associative dropped from 31.5% to 30.4% and cooperative from 17.9% to 15.8% of the time.

These data rejected the null hypothesis that the social participation of four-year-old children will not change when teachers are trained to perform certain behaviors. The research hypothesis the social participation of 4 year old children will change when teachers are trained to perform certain behaviors was accepted.

Teacher Behavior and Child Behavior

The next set of analyses focused directly on the pairing of child behaviors to teacher behaviors. Raw frequencies of occurrence of

child behaviors with occurrence of teacher behavior for the same three second coding interval were tabulated by phase of training (see Appendix C). The paired raw frequencies were then expressed in terms of proportional distribution of child behavior acts for teacher behavior acts (see Appendix C Table 6). The distribution of the concurrently occurring behaviors in the pretraining phase is shown in Table 2. It shows that out of 70 occurrences recorded for a teacher observing, 53 occurrences of cooperative play among the children were recorded. This indicates that 75.7% of the time when teachers were observing, children were involved in cooperative play (see Table 2). This data leads to the rejection of the null hypothesis that teacher behavior does not influence social participation behavior of children and to the acceptance of the research hypothesis that teacher behaviors do influence the social participation behaviors of children.

CHAPTER 4

DISCUSSION

This study examined the influence of teacher behavior on a child's social participation behavior in one preschool classroom during free play time. Observed frequencies of teacher behavior and child behavior for the three phases of the study and concurrent occurrences of teacher behavior with child behaviors were assessed.

Results indicated that teacher behavior does influence the social participation behavior of children and that children's social participation behaviors will change when teachers are trained to perform certain behaviors. The results also indicated that video-tape training procedures are an effective way to change teacher behaviors.

The distribution of frequency of teacher behaviors was assessed. The distribution showed that teachers spent a great deal of time involved in not interacting (C200), listening (C301) and giving information (C302). These findings were consistent with some general findings of a previous study done at the Child Development Center (Baker, 1983). In Baker's study, teachers were found to be suppressing the need for children to use social skills by giving enough materials so sharing was not necessary, by giving directions, or by redirecting so that verbal exchanges were not completed (Baker, 1983).

In this study teachers were performing similar behaviors. This could account for the high amount of lower level social participation behaviors among the children. Teachers, who were coded as spending a great deal of of time not interacting (C200), were physically near the children but not directly involved in playing (C309) with the children. Rather than playing (C309) they spent a good deal of their time listening (C301) and giving information (C302). It is possible that since teachers were so available to children, teacher/child interaction occurred rather than interaction among the children. This could explain why so much of the teacher's time was spent in listening (C301).

When teachers were verbally interacting with children, it was generally in the form of giving information (C302), asking academic questions (C303) or directing/ redirecting (C305). These teacher behaviors were generally disrupting to the flow of interactions among the children. Phyfe-Perkins (1981) noted that other studies had similar results. High levels of direct instruction and asking direct questions were negatively correlated with children's cooperation, independence and verbal initiative. In another study children exhibited higher levels of cognitive play, task involvement and verbal initiative when adults participated more and directed less (Phyfe-Perkins, 1981).

A possible reason for teachers performing these behaviors so often may be related to the curriculum format of the school. Similar problems relating to the activities were discussed in Tizard et al.'s (1976) study of the effects of educational orientation on children's

play. Tizard et al. noted that the differences in play may be due to the staff focus. The staff of the three nurseries focused on different types of activities, related to the orientation of the center. Some of these activities left less opportunity for certain types of play. The Child Development Center curriculum is "planned activity" centered. Activities, (planned learning experiences), are set up each day in the curriculum areas of the room by the teachers. The teachers were often involved in activities where giving information (C302), asking academic questions (C303) and directing/redirecting (C305) were required for the success of the activity. These types of activities which require teacher direction may not be the best for promoting social development because they allow less opportunity for certain types of social participation behaviors to occur. A large proportion of the cooperative play was found to occur in the two areas of the classroom where less of these directed activities took place. The block and dramatic play areas, which were left open for more child directed play, accounted for 80% of the cooperative play which occurred (see Appendix C).

The distribution of frequencies of child behaviors was generally consistent with that of previous studies (Parten, 1932, Smith, 1978). However, Parten found little to no unoccupied behavior for the 4-5 year age group. In this study a higher frequency of unoccupied behavior was found. Generally this behavior was displayed by two of the boys in the classroom. The boys, who were two of the younger in the class, were often found engaged in unoccupied behavior together.

The frequency of solitary play also remained at a relatively high level of occurrence throughout the three phases of the study contrary to Parten's (1932) findings. Some of this solitary behavior as well as the unoccupied behavior may be due to the scheduling of the free play time used by the Center. A snack and outdoor activity were included in the free play times. While a group of four or five children were involved in eating snack, often another group would be in the outdoor play yard. Observations done in this study did not include snack and outdoor areas. Solitary play may have been occurring in a higher amount because there were actually fewer numbers of children who were available to play in groups during the times when children were involved in snack or were outdoors.

The findings also indicated a variety of teacher responses to the training. Play (C309) and observing (C100) increased while openended questioning (C304) remained relatively low, showing a difference among the training behavior. The use of the video-tape medium may account for the differences in increase. Play (C309) and openended questioning (C100) behaviors may need a more intensive modeling sequence than the video-tape session in the training provided. Observing behaviors, which are more easily modeled, showed the largest increase from pre-training to post-training. The fact that the play (C309) decreased after the training was over may indicate that continued modeling and feedback are needed in order to maintain play behavior.

The high teacher/child ratio which exists in the center may have a negative effect on the frequency of observing. Because the Child Development Center is a laboratory school where university students

are trained to become teachers, the ratio of teachers to children is often 1:3. Frequently two teachers were observed in the same area of the classroom. Often, when one teacher would step out of an area to observe (C100), a second teacher would enter the area. While a high teacher child ratio may be an advantage for the successful implementation of teacher directed activities, it appeared to make it difficult for the teachers to find an area to observe where no teachers were supervising.

The low frequency of observing (C300) and play (C309) in the pretraining may be due to the lack of an in-class role model. During the training sessions comments made by teachers indicated there was a lack of a model for these behaviors. "I didn't know we could just watch them" and "I didn't think it was kosher to play with them" were two of the comments made by teachers indicating that these behaviors were not originally seen as part of the teachers role in the classroom. After teachers had these behaviors modeled for them on the video-tape and received feedback on their behaviors, they did increase their use of them. However, since generally the role of the teachers was seen as directing an activity, when the feedback and modeling on the tape were no longer available, teachers returned to some of their original behavior.

More research on effective training of teachers in skill areas which influence the development of social participation in children is needed. For educational programs where the goals for children include development of social skills, effective teacher training may be a readily available method by which teachers could effect the level of

social participation in their classrooms. Further research on how play and observing can be used effectively by teachers would be useful in developing such a teacher training program. Research on the exact nature of the relationship between certain teacher playing techniques and social participation might reveal the most effective behaviors to train. The effectiveness of video-tape modeling of specific teacher behaviors needs to be further explored in order to be able to conduct effective video training of play behaviors. With good effective teacher training, teachers would be able to use their own behaviors in order to facilitate social development in young children.

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APPENDICES

APPENDIX A

TEACHER TRAINING HANDOUTS

Teacher Training Handout 1

Purpose of the Training Sessions:

The purpose of the training session is to examine how children's play changes because of changes in what you as teachers do. We will be viewing a videotape in order to increase use in the classroom of 3 basic teacher behaviors. You will be viewing the videotape 3 times over the next two weeks as well as receiving daily feedback during the wrap-up sessions. Feedback on what areas of teacher methods are increasing as well as general changes in child behavior will be given.

Content of the Videotape:

The videotape covers 3 basic behavior areas or methods of interaction (all of which as teachers you have already been utilizing in the classroom). The tape is designed to show you specific teaching episodes modeling the general teaching methods. You may, of course modify the methods to best suite your own teaching styles. The tape is intended only to show you the general methods from which you may expand.

Outline for Viewing the Videotape

A. Playing Technique Teaching Episodes

1. The teacher is showing a method to engage a child in a cooperating situation by taking turns.

2. The teacher is using an active playing method to engage the child in play. The teacher sits and plays an active role in the play but allows the child to direct the play. Open-ended questions and playing an active participant are important parts in the success of this play segment.

3. The teacher is using an active playing method using puppets in play. The teacher again allows the child to direct the play be asking him how they should play.

4. This segment shows a contrast in playing styles of teachers. What role does this teacher have in the play? How is she enhancing the play? What kinds of questions is she asking? Note the types of interactions the children engage in.

B. Observing Technique Teaching Episodes

1. The teacher is using the method of observing. This episode shows that a teacher can be distracting to the children through poor positioning within an area where children are playing. After leaving the area, as requested by the children, the teacher is less distracting to the children and their play becomes more interactive with each other rather than an adult.

C. Open-ended Questioning Technique Teaching Episodes

1. The teacher is using open-ended questions to allow the child to direct the play as well as to enhance the child's thinking during play.

Basic Teaching Techniques

1. Play: Play is joining the children as an active participant in their play and taking a role in the play to provide the children an opportunity to direct the play as the leader of the group. Once the teacher is a participant in the play it is easier to direct the play from withn the group.

2. Observing: Observing is watching the children play from a viewpoint away from the actual play area. Watching the children play is done to give the teacher the background information on whether or not she needs to join the play and if she does what her role could be in that play.

3. Open-ended Questions: Open-ended questions are questions which allow for more than one answer from the child. This type of question allows for divergent thinking on the part of the child. The questions allow the teacher to have a child think about the direction they want the play to go in without having the teacher direct the play all the time.

Some Help With Open-ended Questions

Open-ended questions really allow the child to give more than a simple yes or no answer. The questions can be grouped into the following categories:

1. Action: How can you .....?
2. Observation: What happened when.....?
3. Prediction: What would happen if.....?
4. Explanation: What made this happen....?
5. Feeling: How do you feel about.....?

Questions like these really do ask the child for more than a yes/no answer.

Examples of open-ended questions from the video tape and other sources.

How can we make the bridge taller?

What do you think he is saying?

What would he like to eat?

How shall we play?

How do I make a.....?

What shall we build?

Where could he get a drink?

What kind of animal could I be?

What comes next?

What would we do if.....?

How can we get over there?

Guide to Videotape Analysis

You will be viewing a short video segment showing a teacher situation in the dramatic play area of a preschool. We will be stopping the tape to analyze the situation as it progresses. The following is a list of questions we will try to generate possible answer to as a group.

1. What is the play situation you have observed?
2. As a teacher evaluating this situation for potential interaction among the children, would you choose to participate in this group's play? Why or why not?
3. How could you participate in this group?
4. When might you use open-ended questions?
5. What would some of those questions be?

Other Discussion Questions

These questions may also be used when observing a group to give you a general sense of the play in the area. Recall one time today you really stopped and observed an area of the classroom before entering that area.

1. What did you see?
2. What activity was set up in the area?

3. What were the children actually involved in?
4. What is the goal of activity?
5. Could the activity be enhanced by interaction among the children?
6. Was everyone in the group involved in the play?
7. Who was leading the play?
   Who's following?
8. Did the group appear to have some kind of goal of its own?
9. Was there any conflict among the group?
10. How were conflicts resolved among the group?
11. How long did conflicts go on for?
12. How long did you observe for?
13. Based on what you saw, what did you decided to do?
14. How did you approach the children?
15. What was their reaction to your entrance into the area?
16. Did the play change when you were there?
17. How did it change?
18. How long did the change last?
19. What was your reaction to the changes in the play?
20. How do you feel getting bombarded with all these questions at the end of a long day at school?
21. Sorry about that!!!

APPENDIX B

BEHAVIOR CODE SHEETS

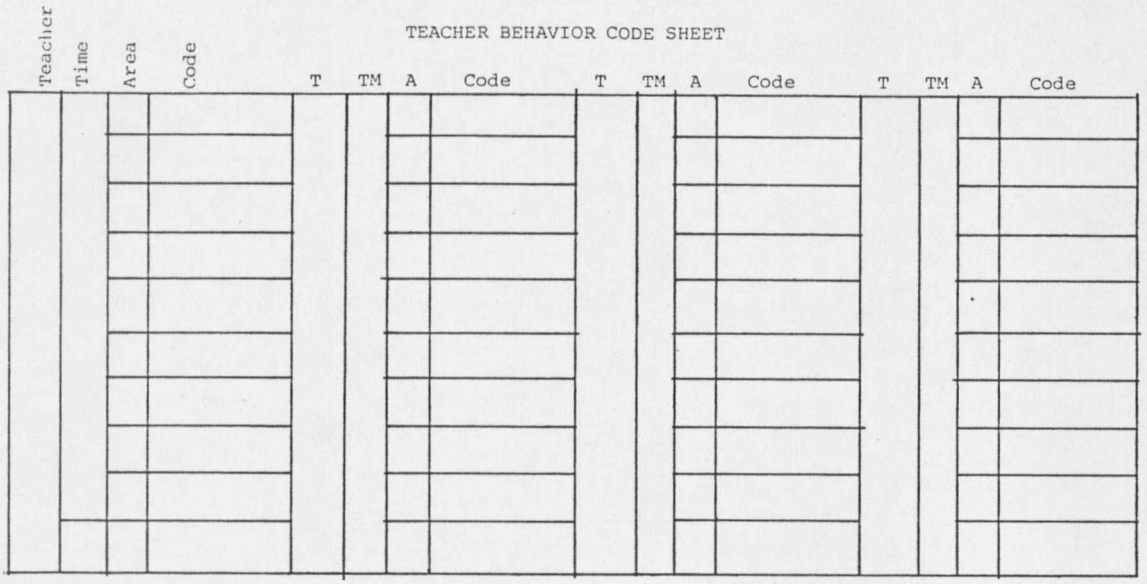
Teacher Behavior Coding Sheet

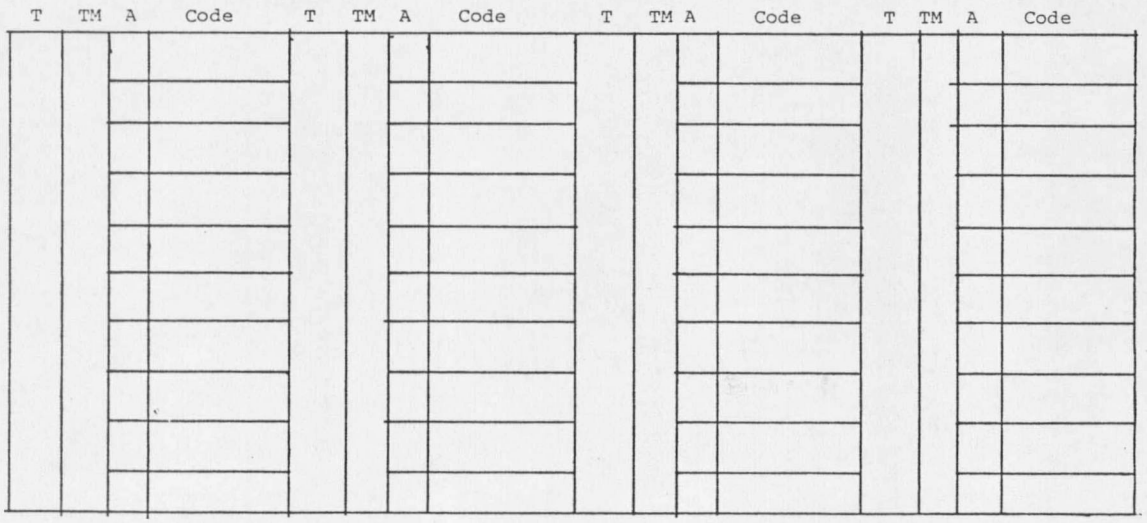
SHEET #_____

OBSERVER _____

DATE _____

TEACHER BEHAVIOR CODE SHEET





Child Behavior Coding Sheet

SHEET # _____ OBSERVER _____

DATE _____

CHILD SOCIAL CODE SHEET

Teacher	Time	Area	Code	T	TM	A	Code	T	TM	A	Code	T	TM	A	Code

T	TM	A	Code	T	TM	A	Code	T	TM	A	Code	T	TM	A	Code

APPENDIX C

RESULTS

Table 5. Number of occurrences of teacher behaviors with child behaviors for the same three second coding interval.

	PRETRAINING							TRAINING							POSTTRAINING						
Child Behavior [1] / Teacher Behavior	U	O	S	P	A	C	Total	U	O	S	P	A	C	Total	U	O	S	P	A	C	Total
Observing*	0	2	5	5	5	53	70	2	23	31	31	57	110	254	2	32	79	30	136	263	542
Not Interacting	40	87	242	281	184	141	975	20	75	217	140	284	197	933	6	80	238	172	258	61	815
Listening	39	61	185	151	162	89	687	19	67	150	64	193	75	568	16	52	164	68	76	43	519
Giving Information	15	40	94	93	71	48	361	13	46	71	66	125	28	349	2	42	65	40	104	21	274
Academic Questions	19	44	80	90	54	40	327	16	31	69	36	81	29	262	5	42	66	42	59	28	242
Openended* Questions	6	7	19	13	18	20	83	0	6	14	8	27	9	64	1	6	23	14	20	5	69
Direct/Redirect	13	31	58	61	40	42	245	5	28	32	37	80	52	234	5	34	46	43	58	21	207
Solicitate	1	0	2	1	0	2	6	0	1	1	0	1	0	3	2	0	0	0	1	0	3
Comment Positively	8	14	35	38	31	21	147	3	8	25	18	32	11	97	0	12	20	17	29	7	85
Play*	0	12	11	4	4	29	60	0	41	98	20	75	60	294	0	12	103	1	44	45	205
Helping	2	9	18	27	9	6	71	0	8	26	14	17	3	68	2	6	27	30	29	2	96
Touching	5	1	1	0	1	2	10	1	1	1	0	1	2	6	0	2	1	0	2	1	6
Other	0	1	13	15	1	1	31	0	0	0	6	5	0	11	0	0	0	0	0	0	0
TOTAL	148	309	763	779	580	494		79	335	735	440	978	576		41	32	832	457	916	497	

[1] U = Unoccupied
O = Onlooker
S = Solitary
P = Parallel
A = Associative
C = Cooperative
* = Training Behaviors

Table 6. Proportional distribution of occurrences of teacher behaviors with child behaviors for the same three seconds coding interval expressed in percentages.

	PRETRAINING							TRAINING							POSTTRAINING						
Child Behavior [1] Teacher Behavior	U	O	S	P	A	C	Total	U	O	S	P	A	C	Total	U	O	S	P	A	C	Total
Observing*	.0	2.9	7.1	7.1	7.1	75.7	70	.8	9.1	12.2	12.2	22.4	43.3	254	.4	5.9	14.6	5.5	25.1	48.5	542
Not Interacting	4.1	8.9	24.8	28.8	18.9	14.5	975	2.1	8.0	23.3	15.0	30.4	21.1	923	.7	9.7	25.7	20.8	31.3	7.4	825
Listening	5.7	8.9	26.9	22.0	23.6	13.0	687	3.3	11.8	26.4	11.3	34.0	13.2	568	.3	10.0	31.6	13.1	34.0	8.3	519
Giving Information	4.2	11.1	26.0	25.8	19.7	13.3	361	3.7	13.2	20.3	18.9	35.8	8.0	349	.7	15.3	23.7	14.6	38.0	7.6	274
Academic Questions	5.8	13.5	24.5	27.5	16.5	12.2	327	6.1	11.8	26.3	13.7	30.9	11.1	262	2.1	17.4	27.3	17.4	24.4	11.6	242
Openended* Questions	7.2	8.4	22.9	15.7	21.7	24.1	83	.0	9.4	21.8	12.5	42.2	14.1	64	1.4	8.7	33.3	20.3	29.0	7.2	69
Dir/Redirect	5.3	12.7	23.7	24.9	16.3	17.1	245	2.1	12.0	13.7	15.8	34.2	22.2	734	2.4	16.4	22.2	20.8	28.0	10.1	207
Solicitate	16.7	.0	33.3	16.7	.0	33.3	6	.0	33.3	33.3	.0	33.3	.0	3	66.7	.0	.0	.0	33.3	.0	3
Comment Positively	5.4	9.5	23.8	25.8	21.1	14.3	147	3.0	8.2	25.8	18.6	33.0	11.3	97	.0	14.1	23.5	20.0	34.1	8.2	85
Play*	.0	20	18.3	6.7	6.7	48.3	60	.0	13.9	33.3	6.8	25.5	20.4	294	.0	5.8	50.2	.5	21.5	22.0	205
Helping	2.8	12.7	25.4	38.0	12.7	8.5	71	.0	11.8	38.2	20.6	25.0	4.4	68	2.1	6.3	28.1	31.2	30.2	2.1	96
Touching	50.0	10.0	10.0	.0	10.0	20.0	10	16.7	16.7	16.7	.0	16.7	33.3	6	.0	33.3	16.7	.0	33.3	16.7	6
Other	.0	3.2	41.9	48.4	3.2	3.2	31	.0	.0	.0	54.5	45.5	.0	11	.0	.0	.0	.0	.0	.0	0

[1] U = Unoccupied
O = Onlooker
S = Solitary
P = Parallel
A = Associative
C = Cooperative
* = Training Behaviors

Table 7. Proportional distribution and number of occurrences of child behavior for areas of the classroom.

	ART	D.P[3]	BLOCK	SCIENCE	MANIPULATIVE	CARE	LOCKER	STAIRS	FLOATER
Unoccupied	25.4[1]	15.7	30.6	6.0	16.0	.4	2.2	.0	3.7
	(68)[2]	(42)	(82)	(16)	(43)	(1)	(6)	(0)	(10)
Onlooker	26.5	24.1	25.1	6.5	14.0	2.5	.1	.8	.3
	(256)	(232)	(242)	(63)	(135)	(24)	(1)	(8)	(3)
Solitary	29.2	25.4	16.4	6.8	17.1	1.2	1.2	1.1	1.6
	(710)	(618)	(398)	(165)	(415)	(30)	(29)	(26)	(38)
Parallel	41.5	13.4	11.4	4.7	25.0	.0	2.2	1.1	.7
	(708)	(229)	(194)	(80)	(426)	(0)	(38)	(20)	(11)
Associative	28.5	25.2	18.3	5.2	19.9	2.6	.0	.0	.3
	(734)	(647)	(470)	(133)	(513)	(67)	(0)	(0)	(8)
Cooperative	3.4	36.1	45.8	7.3	6.1	.8	.1	.3	.0
	(53)	(567)	(719)	(115)	(96)	(13)	(1)	(5)	(0)

1. Percentage
2. Number of Occurrences
3. Abbreviation for Dramatic Play Area

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