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PLAY IN PRESCHOOL CHILDREN.

THE OHIO STATE UNIVERSITY, PH.D., 1978

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DEANNA MARIE LAMB

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THE EFFECTIVENESS OF A DEVELOPMENTAL MODEL OF PLAY FACILITATION FOR ENHANCING IMAGINATIVE PLAY IN PRESCHOOL CHILDREN

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

Deanna M. Lamb, A.B., M. Ed.

* * * *

The Ohio State University

1978

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ACKNOWLEDGEMENTS

I am deeply indebted to Dr. Donald Haefele for the confidence he has unendingly shown, and the hours he has selflessly given not only during this project, but throughout my stay at The Ohio State University. My sense of gratitude toward Kirk Lamb is equally profound. His loving support and extensive professional contribution will take a lifetime to adequately repay.

My assistants, Jane Swarr, Margaret Crockett, Marianne Crafts, Laurie Dhaens, and Nancy Stock went beyond cooperativeness to sensitive helpfulness throughout this lengthy endeavor—I am sincerely thankful to each of them.

Thanks also must go to Evie Freeman and Barbara Bremer for their reliable and extensive assistance in rating protocols.

Lois Draper and Marcia Merz, my typists, brought to the final, technical phase of reportage, the high levels of precision and intelligence and the sense of humor so desperately needed to compensate for the levels of functioning which I brought.
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INTRODUCTION

This chapter will be composed of the following major sub-sections:

1. Purposes of this study
2. Need for this study
3. Assumptions and method for the developmental play facilitation model
4. Imaginative play--A definition
5. Additional variables under investigation
   a. imaginative play predisposition
   b. conceptual tempo
   c. functional structure of play things

Purposes of the Study

The two major purposes of this investigation are (1) to examine the effectiveness of a developmentally-based play facilitation procedure recently described by Wolfgang (1977) for increasing levels of imaginative play behavior in preschool children; and (2) to examine some procedural pre-requisites for providing an adequate test of that play facilitation model.

Four additional purposes are also addressed: (3) to attempt to replicate Freyberg's (1973) finding that subjects designated "high" on fantasy predisposition are more responsive to imaginative play training methods than subjects designated "low" on that characteristic; (4) to examine the
usefulness of a cognitive measure of conceptual tempo as an estimate of fantasy predisposition; (5) to investigate the effects of play training on conceptual tempo and capacity to inhibit motor behavior on request; and (6) to examine the effects of play training on subjects' preferences for "rewards" that are either functionally structured or functionally less structured.

Need for the Study

The modifiability of imaginative play behavior has been empirically demonstrated in a number of investigations (Marshall and Hahn, 1967; Smilansky, 1968; Feitelson, 1972; Feitelson and Ross, 1973; Rosen, 1974; Freyberg, 1973; Dansky, 1976). The basic intervention methods employed in these investigations are similar. Essentially, they involve (1) facilitator modeling of imaginative play behaviors, and (2) facilitator participatory intervention into imaginative play behavior. According to the former, the facilitator actively assumes a role and enacts (models) it for an unspecified period of time. The latter method takes the form of making comments, asking questions, and making direct suggestions from within the imaginative play context.

A basic assumption appears to underlie these two basic methods. That assumption is that some children do not engage in imaginative play because they lack the specific cognitive skills associated with that form of play.
However, several characteristics have differentiated these investigations from one another: (1) duration of treatment as well as distribution of treatment sessions over time; (2) sex, race, and cultural background of the sample; (3) age and size of the sample; (4) age, SES, extent of training of facilitator as well as the number of facilitators; (5) experimental conditions—nature of the toys, physical characteristics of experimental play settings, size of training groups; (6) specific dependent variables examined; (7) nature of control and contrast groups; and (8) thematic content used for training purposes. These substantial differences preclude direct comparisons among the findings in these studies. Taken together, however, the findings do suggest strongly the relative ease with which different aspects of imaginative play behavior may be modified. Specific imaginative play skills can improve with training and practice.

A Developmental Model of Play Facilitation

A play facilitation model recently described by Wolfgang (1977) differs somewhat from previous play modification models with regard to its basic assumptions. According to this model, some preschool children are incapable of playing (and of being productive in general in group settings) not merely because they lack specific play skills, but also because they have not yet achieved a developmentally appropriate level of impulse control. The emergence of imaginative play, then, is placed in the broader developmental context of emerging
impulse control.

According to this model, the failure of impulse control to have achieved the appropriate level of expressive control is attributed to the severity of or discontinuity in the psychological process of separation-individuation (Mahler, 1975, 1968). Such severity or discontinuity is said to result in the child's perceiving his world as full of social and physical limits that are hostile to his needs and wishes. His coping methods, then, are arrested at or regress to less mature levels of impulse control—i.e., withdrawal (passivity) or hostility (physical or verbal aggression).

Playing (Productive) versus Non-Playing (Non-Productive) Children

In general, non-productive children are non-players, children who demonstrate limited ability "to elaborate age-appropriate forms of play" (Wolfgang, 1977, p. 9).

Behaviorally, productive and non-productive children can be contrasted in the following manner:

1. The productive child is curious, easy to stimulate, to involve; the non-productive child, in contrast, is far less responsive to stimulation and lacks the curiosity of the productive child.

2. The productive child's behavior is usually purposeful; that of the non-productive child is characterized either by lethargy and/or by what seems to be purposeless and
often excessive activity.

3. The productive child is assertive in play situations, initiating much of his own play and often selecting activities that are challenging to him. The non-productive child, on the other hand, is less likely to initiate his own play and when he does, tends to select those activities requiring the least output (e.g., more structured, clearly defined activities).

4. Affects manifested by the productive child are usually positive, reflecting interest and enjoyment; non-productive children tend to be less expressive and often appear to be almost completely lacking in affect.

5. The play behavior of the productive child is characterized by imaginative use of many ideas; the non-productive child's play, in contrast, appears repetitive and stereotypic.

Assumptions Underlying the Wolfgang Model

Several assumptions underlie this play facilitation model. First, non-playing children are assumed to be children who perceive their world as hostile to their needs and wishes. Second, and related to this first assumption, is that the perceptions of non-players must be changed before they can be expected to develop more mature modes of coping with the limits imposed on their impulsive expressions of needs and wishes. Third, "reactivation", or the process whereby hostile perceptions are changed to pleasurable ones, can be
facilitated through (sensory) play experiences with fluid play materials when such experiences are conducted under the careful guidance of a caring play facilitator. The final assumption is that children must have achieved expressive impulse control before they can engage in symbolic play. Symbolic (imaginative) play demands that impulsive (stimulus-bound, or reality-bound) responses to play materials be delayed or suspended and that other idiosyncratic "pretend" functions and/or meanings be temporarily assigned. The child who cannot inhibit impulsive behaviors is therefore considered incapable of symbolic play.

Operationally, then, early play training sessions according to this model focus on reactivation via carefully graduated experiences with fluid play materials. Only when enjoyment and involvement with these fluid materials seem to be at their peak is symbolic play training undertaken. Insofar as manifestations of enjoyment and involvement may vary substantially across different children, facilitator judgment is critical in determining the child's readiness for symbolic play training. Methods for symbolic play training descriptively resemble those methods described earlier and used in previous play modification research.

The Play Training Method

Viewed from a behavioral perspective, then, the purpose of the Wolfgang (1977) play training method is to minimize the behavioral differences observed between the productive and
the non-productive child—i.e., to teach the non-productive child to engage in play behaviors that characterize the more productive child. From a more theoretical perspective, the aim of this play facilitation procedure is to increase the child's functional level of impulse control, and ideally, to bring him to the level of expressive impulse control.

In order to achieve the major goal of increased productivity via expressive impulse control, two major objectives are specified:

1. **To "reactivate" the child.** To achieve this, the facilitator first communicates both directly and indirectly to the child that play behavior is valued. Secondly, the facilitator guides him through activities (with mirror and fluid materials) that convey to him that his is an interesting and enjoyable playworld. And finally, the facilitator assures the child that he will be kept safe—i.e., safe from the embarrassment that he might bring upon himself through impulsive behaviors—and safe from emotional flooding that might occur if his level of impulse control is insufficient to deal with the play situation.

2. **To teach the child how to control the various play stimuli.** With fluid materials (materials lacking a static form), the child learns how to explore their sensory qualities and how to experiment with their physical properties without making inappropriately large messes and without being emotionally overwhelmed by increased levels of sensory
stimulation. With more structured play objects (objects having a static form), the child learns to use make-believe language to delay a stimulus-bound, or impulse-ridden response to the toys.

**Purpose of the Study**

The primary purpose of the study is, therefore, to document the general effectiveness of the Wolfgang approach for increasing play productivity in a small sample of preschool children. More specifically, the purpose is to demonstrate that, like previous play training methods, this method can enhance both the quality and quantity of imaginative play. The major dependent variables investigated by Freyberg (1973) are selected in an attempt to replicate her findings of post-training improvements with regard to imaginativeness, concentration and affect.

Secondly, this project is designed to examine some of the preliminary methodological requisites for providing an adequate test of the Wolfgang model. It is designed to examine a method for testing the theoretical assumption that non-playing children must be "reactivated" before they can be maximally responsive to training in specific symbolic play skills.

**Imaginative Play--A Definition**

For purposes of this project, imaginative play will be described as a form of play behavior in which the child temporarily suspends certain aspects of the social, temporal, spatial, and emotional environments and substitutes
idiosyncratic data for them. Some examples are provided below:

a. **Social:** The child at imaginative play suspends the reality that he is a child and enacts the role of the medical doctor as he gives a medical examination to a doll or to another (patient) child.

b. **Temporal:** The child suspends the reality that it is morning as she puts the doll into the cradle and announces "It's nightie-night time, now, baby. You go to sleep."

c. **Emotional:** The child assumes the excitement of the fireman he is portraying as he speedily drives to an imaginary fire.

d. **Spatial:** The child suspends the reality of the play space as he crawls under the table and announces that "this is a tiger's cage" and that he's a vicious tiger.

e. **Physical:** The child suspends the reality of the physical properties of play props as he uses a block to form a splint for his make-believe broken arm.

**Imaginative Play Predisposition**

Singer (1966, 1973) has postulated the existence of a fantasy predisposition construct, "a general pattern or life style" (p. 73) associated with "high" fantasying. A number of projective and self-report measures have been found to discriminate among children with high or low fantasy predispositions. Highs tend to project more human movement responses on inkblot procedures (e.g., Holtzman, 1961; Barron, 1955) and to
show greater story-telling capacity on projective story-telling measures. On a self-report measure (Singer, 1973), high fantasizers tend to report having more imagery during play and more frequently report having imaginary friends.

Children classified as "high" on fantasy predisposition tend to play more imaginatively than do those classified "low". "Highs" seem to be predisposed to acquire symbolic play skills more readily than "lows". And while play training experiences elevate the level of imaginative play for both groups, there is some preliminary evidence that "highs" tend to maintain their advantage over "lows" subsequent to training (Freyberg, 1973).

An additional purpose of this study, then, is to replicate Freyberg's (1973) finding that subjects designated "high" on fantasy predisposition are more responsive to imaginative play training than subjects designated "low".

**Conceptual Tempo or Impulsivity/Reflection**

The conceptual tempo construct (impulsivity/reflection) is described as the capacity to reflect upon alternative hypotheses in specified problem situations in which many possibilities are simultaneously available (Kagan, 1966, 1966a). Some children appear to have a fast response time--i.e., they impulsively select the first response alternative that seems appropriate. Reflective children, on the other hand, tend to delay before responding while they consider the available response alternatives.
Developmental studies (Kagan, 1964, 1967) reveal that this response disposition is relatively independent of verbal skills, that it generalizes across different tasks and that it shows considerable stability over time. It has been observed in children as young as preschool age.

**Conceptual Tempo and Fantasy Predisposition**

There appear to be fundamental similarities between children described as reflective and those children classified high on fantasy predisposition. Reflective children seem to be capable of inhibiting motor movement on request (Harrison and Nadelman, 1972) and high fantasizers seem capable of inhibiting motoricity while they fantasize (Riess, 1957). High fantasizers also manifest a greater ability to endure waiting periods than do lows (Singer, 1973). They apparently use their fantasy abilities to distract themselves from the waiting.

Reflective children show longer response times on certain perceptual tasks. Kagan (1966) has noted that movement responses to inkblots usually require greater response times than do non-movement responses. He suggests, then, that reflective children might make more movement responses than impulsive children.

Singer (1973) has hypothesized a relationship between the two constructs that is strong enough to warrant inclusion of instruments for estimating impulsivity/reflection (conceptual tempo) in a battery of instruments to assess imaginative
predisposition.

The conceptual tempo construct, in addition, seems to bear some similarities to impulse control as described by Wolfgang (1977). Both are characterized by the capacity to delay an immediate response and to consider response alternatives. Although the stimuli vary greatly, the theoretical relationship appears strong enough to warrant investigating potential relationships between scores on a cognitive measure of conceptual tempo and (a) pre-training fantasy levels, and (b) post-training imaginativeness ratings.

A positive relationship has been observed between reflection and the capacity to inhibit motor behavior on request (Harrison and Nadelman, 1972, Banta, 1970). In addition, as reported earlier, high fantasizers have been found to inhibit motoricity while they fantasize (Riess, 1957).

The associations between fantasy predisposition, imaginative play skills, motor inhibition, and conceptual tempo thus constitute another direction for this study.

The Functional Structure of Playthings

A number of researchers have investigated the effects of various characteristics of play things on children's play behavior. Some toys have been found to induce aggression (Barker, Dembo and Lewin, 1941), some increase motility (Riess, 1947), and others elicit exploratory behavior (Phillips, 1945). Pulaski (1973) investigated the effects of the realism of play things on observed fantasy play levels.
She found that high fantasizers preferred less realistic play things while low fantasizers preferred more realistic play things during experimental play sessions. It remains unclear whether it was the predisposition to fantasy itself or the greater symbolic play skills associated with the predisposition which influenced toy preferences.

A post-experimental high or low structure prize selection procedure yielded inconclusive results (Pulaski, 1973). Failure to obtain meaningful findings may have resulted from the inclusion of highly sex-typed prizes and from the relatively small number of prize alternatives from which subjects could select.

For this project, a somewhat different characteristic, the functional structure of play things is examined. By expanding the child's repertoire of play behaviors through "reactivation", the child's play behavior should theoretically become less dependent upon those play things whose functions are clearly defined and/or limited. Concomitantly, the child should have access to an expanded repertoire of play behaviors for experimenting with play things whose functions are less clearly specified or less restricted. These effects should be reflected in children's preferences for "rewards" that are functionally structured or unstructured.
CHAPTER II

REVIEW OF THE LITERATURE

This chapter will be organized in the following manner:

1. Literature will be reviewed which supports the view of imaginative play as a significant force in the cognitive development of the preschool child.

2. The relative paucity of imaginative play skills among certain populations of young children will be documented.

3. Imaginative play modification literature will be reviewed.

4. The literature on the fantasy predisposition construct will be presented.

5. The literature on a related construct, conceptual tempo, will be reviewed.

Hypotheses in the present investigation will be presented at the conclusion of related literature (1-5 above).

**Imaginative Play as a Cognitive Skill**

Recently, there has been a resurgence of interest in the phenomenon of play behavior. One form of play behavior, imaginative play, appears to have been the focus of much of this interest. However, in contrast to earlier, essentially psychodynamic, views of imaginative play in which diagnostic, cathartic (e.g., A. Freud, 1937, Klein, 1960), and coping
(Erikson, 1963), aspects were emphasized, more contemporary views seem to focus on cognitive developmental aspects.

Both Piaget (1962) and Vygotsky (1976) have suggested that imaginative play offers opportunities for the rehearsal of symbolic behaviors that are intermediate between the almost purely sensory-motor behaviors of the infant and the toddler and the representational behaviors manifested by the seven-year old.

Piaget (1962) has related play to the counterbalancing of the adaptive processes of assimilation and accommodation. His emphasis has been on the egocentric distortions associated with the assimilation process during play. Thus, imaginative play is described as representational behavior in which the child freely assimilates new information to his existing mental structures without fully accommodating those structures to impinging external realities. As the child approaches concrete operations, his behavior becomes increasingly accommodated to reality and the distortive element lessens. This increase in accommodation is accompanied by a decrease in observable instances of imaginative play.

Vygotsky (1976) has offered that the idiosyncratic meanings and functions that a child assigns to objects and situations during imaginative play, rather than being distortive in quality, represent the child's constructive capacity to free himself from the constraints of reality. He is less stimulus-bound, less restricted to rigid compliance with the
situational demands of external stimuli. Instead, he can suspend some of the real meaning and functions of a pen, for example, and idiosyncratically "turn the pen into a spaceship at takeoff". Millar (1968) describes this as a re-encoding process. Action becomes determined by ideas and not by the objects themselves.

During imaginative play, the child remains dependent on external objects as "pivots" for his imaginative activity (Vygotsky, 1976). Developmentally, he is not yet capable of operating totally without them. This necessity for an external pivot, along with the emerging salience of meanings over objects, are precisely the qualities of imaginative play which make it transitional between the reality-constrained behavior of the infant and toddler and the capacity for pure thought that emerges with intellectual maturity.

Sutton-Smith (1971) has concurred with Vygotsky. By assuming an "as if" position, the child during imaginative play is capable of "conserving imaginative identities throughout the play in spite of contraindicative stimuli" (p. 256). Although properties, functions and meanings associated with the pen, in the example cited earlier, are temporarily suspended while others are assigned (e.g., the spaceship), the child nonetheless acknowledges the reality of the situation (e.g., "This pen can be a spaceship...").

Sutton-Smith also points out the transitional nature of this capacity by noting that while the capacity to assume
"as if" begins around age three, given comparable conditions of contraindicative stimuli, quantity, space and number are not usually conserved until age five - seven (Sutton-Smith, 1971).

Smilansky (1968) views imaginative play as an organizational, integrative mode of behavior. Children who engage in imaginative play (and especially in socio-dramatic play) are thought to be more capable of drawing meaningful relationships or associations between disparate bits of information, concepts or skills. Children who lack skills in socio-dramatic play are described as being incapable of "relating scattered experiences and isolated concepts" (p. 3).

The theoretical interpretations cited above remove imaginative play behavior from its traditional compensatory position and place it in a leading role (Vygotsky, 1976) in the cognitive development of the preschool child. Imaginative play represents the intermediate stage of cognitive development during which the child becomes observably less dependent on continuous external stimulation to sustain mental activity.

The Non-Universality of Imaginative Play During Preschool Years

Until fairly recently, it was widely assumed that symbolic play forms (dramatic and socio-dramatic play) emerged spontaneously in preschool children of varying cultural and/or socio-economic backgrounds. This assumption emerged because play observations were made almost exclusively of white middle
class children (e.g., Piaget, 1962; Valentine, 1938; K. Buhler, 1930).

Recent evidence is accumulating, however, which suggests that the typical developmental play sequence observed in middle class children is not universally found in children of different cultural and socio-economic backgrounds. Reports in Whiting (1963) indicate that in some non-Western cultures, imaginative play is rarely observed (e.g., Nyansonga), whereas in others (e.g., Okinawan Taira tribe), it is rich and inventive in spite of the paucity of available toys.

Feitelson's (1972) observations of low SES Israeli children aged 2 - 4 indicated very low levels of symbolic play. Instead of the expected dramatic play, a great deal of apparently purposeless activity was observed.

Smilansky (1968) observed distinct differences in both quantity and quality of symbolic play of preschool children. She reported that lower class children used toys in manipulative or imitative ways whereas middle class children used them as dramatic play props. Smilansky tentatively concluded that one of the major factors contributing to the absence of socio-dramatic play was the unavailability of adult models with whom the children could identify and whom they could imitate.

A virtual dearth of symbolic play was similarly observed in samples of lower class American children.

Freyberg (1973) described the pre-imaginative play training behavior of her lower-class Kindergarten sample as
either extremely apathetic or hyperactive at the lowest extreme or as repetitive and stereotypic bits of make-believe at its best.

Feitelson and Ross (1973) described the play intake levels of their middle class Kindergarten subjects as either stereotyped and constrained by available props or as uninvolved manipulation of play materials.

Rosen's (1974) findings for an American Kindergarten population were consistent with those previously mentioned. Black lower class children were found to engage in substantially less symbolic play than black or white middle class Kindergarten children.

Pines (1969) reported data gathered through the Harvard Preschool Project. Middle class preschool children were found to engage in role-playing five times more frequently than lower class children. As in Feitelson's (1972) observations, the play of lower class children was described as essentially purposeless or uninvolved—apparently non-playing behavior.

Griffing (1974) compared the play of 169 black five-and-six-year old Kindergarten children, approximately half of whom were classified as low SES and the remainder as high SES. Observations of children grouped into four's and encouraged to "play house" in an experimental play setting revealed significant differences between the two SES groups. High SES subjects scored higher than low SES subjects on all six sociodramatic play components (derived from Smilansky, 1968), with
high SES girls contributing most to those differences.

Fineman (1962) observed wide variation in the extent to which young children (aged 18 - 36 months) engaged in imaginative play. Fineman proposed that early opportunities for exploratory and manipulative play were probably essential to the later development of imaginative play.

In an investigation of the representational functioning of 101 black lower and middle class Head Start (Kindergarten) children, Sigel and McBane (1967) reported that lower-class children were less able to function in categorization tasks and in play than their middle class peers.

Contradictory Evidence

Some contradictory evidence has emerged, however, to complicate the findings cited above. Eifermann (1971) did observe socio-dramatic play in lower class Israeli children, but its emergence was later (at age 6 - 8) than in middle class Israeli children (preschool). Griffing (1974) also reported that the play of lower class black second graders (investigated by Sears, 1972 and Melragen, 1973) was significantly better than the play observed in the low SES Kindergartners in her own investigation. Although the data are inconclusive, there is a general indication that for certain populations of lower class children, symbolic play may simply emerge at a later age than for white middle class children. In summary, recent literature generally supports the view that imaginative play behavior does not spontaneously emerge
at preschool age. For children of low socio-economic level and/or different cultural backgrounds, imaginative play may emerge at a later age or not at all.

Modifications of Children's Symbolic Play

In view of the leading position that imaginative play purportedly occupies in the cognitive development of the preschool child, investigators have devised methods for eliciting it in populations of young children in which it has been observed to be absent or poorly developed.

A number of these investigations have demonstrated that imaginative play is in fact amenable to modification. Both quantitative and qualitative increases in imaginative play subsequent to play training have been demonstrated. A review of the major imaginative play modification studies follows below.

Using Kindergarten teachers as play facilitators, Smilansky (1968) examined the effectiveness of three play training procedures for enhancing socio-dramatic play in children aged 3 - 6. One group of children received only enrichment experiences. Using modelling and direct teaching methods, facilitators taught specific make-believe techniques to a second group. A third group received a combination of enrichment experiences and skills training. A fourth group served as a no-treatment control group. Improvement was measured in terms of gains in the following six characteristics or criteria for socio-dramatic play:
"1. Imitative role play. The child undertakes a make-believe role and expresses it in imitative action and/or verbalization.

2. Make-believe in regard to objects. Movements or verbal declarations are substituted for real objects.

3. Make-believe in regard to actions and situations. Verbal descriptions are substituted for actions and situations.

4. Persistence. The child persists in a play episode for at least 10 minutes.

5. Interaction. There are at least two players interacting in the framework of the play episode.

6. Verbal communication. There is some verbal interaction related to the play episode." (p. 9)

Interventions were conducted one and a half hours per day, five days per week over a nine week period making a total of sixty-seven hours of intervention.

Although skills training alone was an effective treatment mode, the combination treatment mode proved to be the most effective. In addition to increases for the six socio-dramatic play criteria, the investigator reported more positive affect, less fighting and hyperactive behavior, and increased verbal behavior (increased vocabulary, sentence length, and contextual—i.e., play-relevant—verbalization) for the improved groups.

Using a five-level scale of playfulness as an outcome measure, Feitelson (1972) successfully fostered imaginative play among children of poor Israeli immigrants. Nineteen 2 - 4 year olds received nine individual 30-minute training sessions. Play facilitators were nineteen students (each
assigned to one specific child) whose imaginative play training skills at project's outset were reportedly quite limited. Behavior units (play initiated by child or model) were rated according to five levels of playfulness: (1) model initiates; child passive; (2) model initiates; child attends; (3) model initiates; child participates; (4) model initiates; child contributes new elements; and (5) child initiates and/or contributes original elements. Although Feitelson does not report statistical analyses, the data reflect decreases in level one and increases in level five ratings.

Feitelson and Ross (1973) found that a thematic play training procedure that involved a warm, encouraging adult play model resulted in increased incidence of thematic play. Thematic play was described as imaginative play emanating from a central theme. Twenty-four lower-middle class Kindergarten children were randomly assigned to one of four experimental conditions: (1) play "tutored" (with modeling as the essential tutoring method); (2) play, no tutoring; (3) attention-control (music tutoring on the tonette); and (4) no intervention. Subjects in groups 1 - 3 attended ten 30-minute sessions (a total of five hours) over a period of five weeks. Forty minutes each of pre-experimental observations and observations obtained during training sessions disclosed that pre-play levels (manipulative, task-irrelevant play) decreased while combinatorial and innovative play (highest play level) increased for the play-tutored group only. An intermediate
level called contentful play also increased for this group during treatment. Not only did the contrast and control groups not reflect these increases, but they manifested changes in the opposite directions—i.e., an increase in lower levels and a decrease in higher levels of play. The fact that the only group to register gains in level of play was the play-tutored group indicates that it was the content of the play tutoring itself and not exposure to the toys or the presence of the warm encouraging adult which produced observed thematic play gains. Gains were also observed for the play tutored group on four conventional measures of creativity, although only the results of one of these achieved significance (an originality rating).

Rosen (1974) reported that when quantity of pre-experimental socio-dramatic play (using the Smilansky schedule cited earlier) for advantaged and disadvantaged Kindergarten children was compared, all the advantaged, but only 31 out of 58 disadvantaged children, engaged in some socio-dramatic play. The investigator provided forty hours of imaginative play training for half of the 58 disadvantaged children. As in investigations reviewed earlier, the intervention involved modeling, participation, asking questions and making suggestions. Initially, intervention proceeded on an individual basis. As imaginative play skills were acquired, the facilitator-investigator shifted to group intervention. To control for a Hawthorne effect, a control group (the remaining half of
the total 58 children) was led through group activities with toys to indicate that adults are interested in and supportive of child's play. Analyses of nine codings of post-training play behavior per subject were rated according to the criteria for socio-dramatic play developed by Smilansky (1968). The total play index (the sum of weighted codings for each level of play) increased significantly for the play-trained group only. Other significant differences favoring the experimental group were increased productivity on a group construction task, improved role-taking skills, and increased group effectiveness on a group task requiring maximum cooperation.

Using a modeling and participatory intervention, Marshall and Hahn (1967) provided four 15-minute sessions (one day apart) of doll play training to matched triads of middle SES preschool children. Forty 2-minute time samples of behaviors during training revealed that doll play training resulted in increased frequency of both friendly, neutral, and aggressive dramatic play language. Increases were not obtained for a no-treatment control group and a placebo group in which manipulative behaviors and basic science concepts (e.g., form, shape, color) were emphasized and make-believe was avoided.

Dansky (1976) investigated the comparative effects of socio-dramatic play training and exploration training with two control conditions in 36 low SES preschoolers. Six 5-minute behavior samples per subject were rated for imaginativeness and were used to determine pre-experimental levels of play.
Each of the 5-minute observation samples was rated by the observer immediately after it was recorded according to Freyberg's (1973) 5-point imaginativeness scale. Each 5-minute observation sample was then divided into 15-second intervals, each of which was rated for the presence or absence of eight play behavior categories: (1) role play, (2) object transformation, (3) play-relevant verbal interaction, (4) non-verbal interaction within the framework of the dramatic episode, (5) a summative make-believe category (1-4), (6) pre-play, (7) constructive play, and (8) "other" for behavior that did not clearly fall into the first seven categories. Subjects were randomly assigned to nine groups of four subjects each and these subgroups were randomly assigned to treatments. Treatments were conducted over nine 30-minute sessions.

For the play-trained group, modelling and participatory intervention surrounding three themes (family picnic, doctor's office situation, and grocery store situation) was conducted by one female undergraduate student who had experience with young children. Exploration training (the contrast group) was designed to help subjects investigate the physical properties of play stimuli. Emphasis was on reality--make-believe and role-play were avoided. Children were, however, encouraged to interact with their peers and with the trainer. A third group was exposed to the play props but received no play training. A fourth group was only seen for pre and post testing.
Consistent with investigations reviewed earlier, pre-test levels of symbolic play were extremely low suggesting that some form of modelling and social reinforcement are required for play to emerge according to age norms. Post-training observations revealed that the experimental group (Group 1) increased significantly in frequency of the following play criteria: role play, verbal dramatic play interaction and object transformations. Imaginativeness ratings were also significantly increased. These gains did not obtain for comparison and control groups. It was the play training itself, then, and not exposure to the toys or merely the presence of a friendly adult that contributed to the gains. In addition, a number of verbal measures disclosed increased comprehension of verbal communications and increased associative and verbal fluency. The investigator interprets these impressive results from relatively brief (4.5 hours) treatment as an indication that socio-dramatic play training may be as or more effective in producing desired gains that generalize and endure beyond experimental periods than specific academic skills training. Although play behaviors in an experimental setting have been shown to generalize to classroom and other settings and to other tasks, the endurance of such gains remains to be demonstrated.

Subjects for Freyberg's (1973) investigation were 80 five-year old Kindergarten children who were enrolled in a special services school in New York City. Six 5-minute free play
behavior samples were obtained for each subject prior to the experimental phase of the project. The protocols from these observations were rated on three dimensions—imaginativeness, concentration, and affect according to three five-point scales developed by Freyberg for this investigation and based on similar scales used by Pulaski (1973). The imaginativeness scale rates play behavior on the extent to which it reflects symbolic content that is developed and organized. The concentration scale provides an index of distractibility as well as ability to sustain a play activity. The affect scale rates degree of positive affect (e.g., elation, joy, interest, surprise, animation) manifested during play.

Subjects were classified "high" or "low" on fantasy predisposition on the basis of scores obtained from three measures: (a) Imaginative Play Predisposition Interview (IPP) (Singer, 1973); (b) Barron Movement Threshold Inkblot Test (Barron, 1955); and (c) Teacher's ratings of imaginativeness (using the 5-point imaginativeness scale described above) during free play. The latter were based on the teacher's impressions obtained from the previous three-month period. Subjects were assigned to experimental and control groups such that each group was composed of an equal number of highs and lows. Subjects within treatments were then assigned to groups of four for intervention purposes. Both the experimental (n=40) and the control (n=40) groups attended eight 20-minute play training sessions (making a total of 2 hours and 40 minutes)
distributed over a one month period.

Play materials for the experimental group consisted of an assortment of fabrics, pipe cleaners, clay, playdoh, blocks, tinkertoy sets, and a variety of wooden shapes, all laid out on a large table in the experimental room. The investigator introduced a theme for the session (four themes were used twice each) and then modeled brief make-believe episodes in which the pipe cleaner people enacted make-believe roles and the remaining props were introduced to support the dramatic episodes. Specific imaginative behaviors—e.g., sound simulations, different voices—were modeled and encouraged.

In the control condition, the investigator assisted subjects in mastering the assembly of puzzles and the construction of tinkertoy structures. The investigator was warm, responsive and supportive of the children's efforts.

Post-testing consisted of twelve 5-minute play behavior samples per subject obtained during free play time. Significant gains for imaginativeness, concentration, and affect ratings were recorded in the experimental group. No changes were obtained in the control group on those dimensions. These gains are especially impressive in the light of the brevity (less than 3 hours) and the relative simplicity of the intervention. Freyberg's interpretation of these results is that existing play potential was actualized as a result of learning specific play techniques. She adds that the limited levels of
symbolic play typically observed in low SES children seem not to represent a basic representational inability, but rather a lack of specific expressive play skills. Her findings concur with those obtained by Smilansky (1968), Dansky (1976) and Rosen (1974). They are also consistent with positions stated by El' Konin (1966) and Chauncey (1969) that symbolic play is a learned behavior. Manifestations of symbolic play behavior are likely to be substantially limited when, as in the case of the "overwhelmed mother" (Pines, 1969), adults are unavailable to model.

Increased imaginativeness ratings during play seem to be a logical outcome of imaginative play training. The relationship between imaginative play training and enhanced affect and concentration ratings, however, warrants more interpretation.

Affect

Freyberg notes that gains in positive affect seemed to be associated with the joy the children experienced in trying out their newly acquired play skills. She suggests a possible cause-effect relationship between symbolic play ability and positive affect.

Although the evidence from Freyberg's (1973) investigation does not support that contention conclusively, the increase in positive affect which she observed is consistent with observations by Hartley et al (1952), by Krown (1974), and by Wolfgang (1977). Children who are ineffective or unproductive in group play settings are frequently described as
affectless and difficult to arouse.

White's concept of efficacy (White 1965; 1959) might be a plausible explanation for the increased positive affect observed in the child whose imaginative play competencies have been enhanced by training. During imaginative play, the child seems to be experiencing satisfaction with the play process, i.e., with a series of transactions with his environment rather than with a specific end goal or "consummatory climax" (White, 1965, p. 401). If imaginative play skills are viewed as ways of interacting with one's environment, it may be that observed positive affect reflects an underlying feeling of efficacy resulting from competent interaction with one's play environment.

Another explanation suggested by Singer (1973) is based on Tomkins' (1962) theory of the motivational qualities of affects. According to this theory, novelty elicits an excitement response. The sudden increase in stimulation and concomitant steep increase in neural firing results in excitement or in one of the negative affects (e.g., fear). A steep reduction in the density of neural firing that occurs with recognition of or familiarity with the novel stimulus results in the positive affect joy. Applied to the play training situation, the novelty of the skills associated with imaginative play (or the novelty of the dramatic theme) might elicit an excitement response. With repeated exposure, the behaviors (or the dramatic theme) would then become familiar. The steep
reduction in stimulation associated with familiarity would in turn elicit the smile response, the outward indicator of joy.

**Concentration:**

Freyberg (1973) reported intercorrelations of .96 and .98 pre- and post-training, respectively, between imaginativeness and concentration ratings. On that basis, she suggests that imaginativeness and concentration might be a unitary dimension. Sufficient evidence remains to be obtained to support that hypothesis. However, the following literature does support the strong association usually observed between imaginativeness and concentration during play.

Krown (1974) reported lack of concentration in children with limited play skills. Their play behavior was described as "short-lived", "sporadic", and their interest as difficult to arouse, let alone sustain.

Hartley et al (1952) described in considerable detail the absorption, resistance to distraction and sustained activity of young children at play.

Bruner (1976) described play as "practice in assembling behavior...into unusual sequences" (p. 244). It seems reasonable to assume that this assembling-sequencing behavior might occur over more extended periods of time than would unrelated enactments of the component behaviors. This view is consistent with Freyberg's assertion that "by it's very nature, imaginative play requires longer drawn-out sequences of
Finally, Pulaski (1973) reported significantly higher concentration ratings for subjects designated high than for those designated low on fantasy predisposition. Although the high-low designation cannot be equated with play-treated-non treated designations, it is nonetheless important to note that higher concentration ratings are associated with higher imaginativeness ratings.

In summary, some combination of imaginative modeling and participatory intervention (usually consisting of making suggestions or asking questions from within the dramatic context) essentially constitute the methods in the play modification projects reviewed above. With the exception of one investigation in which only an experimental group was used (Feitelson, 1972), comparison and/or control groups formed a part of the design of the remaining investigations. It was therefore possible to conclude that obtained results were in fact due to the play interventions and to eliminate alternate hypotheses—e.g., maturation, attention factor, exposure to play materials.

Although outcome measures and duration of play interventions varied considerably across these investigations, the results indicate quite conclusively that these methods successfully foster certain aspects or dimensions of imaginative play.

In several of these investigations, impressive gains in non-imaginative play behaviors were also observed. Smilansky
(1968) and Dansky (1976) reported dramatic increases in a variety of verbal skills. Rosen (1974) documented increased productivity and cooperativeness in group tasks. Increases on a variety of creativity tests were also observed in two of the investigations. Imaginative play, then, seems to positively influence behavior on different but apparently related tasks or in different skills areas.

The investigators reviewed above clearly acknowledge the appropriateness and importance of imaginative play in the social, emotional and cognitive development of the preschool child. However, in none of these studies is there any attempt to articulate imaginative play development with specific developmental considerations.

A Developmental Model for Play Facilitation

A model for play facilitation described by Wolfgang (1977) attempts such an articulation. According to that model, imaginative play is viewed in the developmental context of emerging impulse control.

The development of impulse control is described as the adaptive process whereby the child gradually acquires the ability to appropriately express and inhibit his needs and wishes in the face of increasing pressures to deal with limits. Sources of limits are basically two: (1) the physical world (e.g., a toy that rolls but won't bounce; a door that is too heavy to push); and (2) those imposed in the socialization process (e.g., prohibitions against biting and kicking).
The underlying theoretical assumptions are essentially derived from the work of R. Spitz (1957, 1965) and M. Mahler (1968, 1975). Spitz traced the internalization of "no", or the process whereby the child gradually acquires the capacity to appropriately inhibit impulsive need expression and to adaptively use language to express those same needs. The four basic modal responses to the adaptive clashes that the child experiences with limits are described by Spitz as passivity, physical aggression, verbal aggression and finally, adaptive expression of needs.

Wolfgang (1977) places this process in a psychological context described by Mahler, 1968; 1975)—the separation-individuation process. The smoothness with which the process proceeds depends to a great extent on the quality of the reciprocity established between the mothering person and the child. If the "protective shell" of the mothering person is precipitously withdrawn—i.e., if the mothering person fails to regulate the rate at which limits are imposed and/or if she withdraws support when the child experiences levels of need frustration incompatible with his coping capacities—the child will experience his world as "hostile" to his needs and therefore to himself. (See Figure 1 for a reproduction of a graphic representation of this process).
Expressive Control (Language)

Attainment of goals through socially acceptable means

Social limits (No) or an object as a barrier

Goal

First  Passivity

Second  Physical Aggression

Third  Verbal Aggression (No)

Figure 1

IMPULSE CONTROL AS A DEVELOPMENTAL PROCESS

Wolfgang, 1977, p. 5. (Reproduced with permission of the author).
Wolfgang (1977) describes as nonproductive those children "...who have had the continuity of the mastery of of their own impulses prematurely disrupted. Such children, for a variety of reasons, have had to maintain themselves prematurely in a 'hostile' world long before they had the intellectual or emotional capacities to master the frustrations produced by adaptive encounters. As a result, the nonproductive child has been unable to overcome the environmental limits and, thus, is not able to be free and active in his world." (p. 6)

This situation manifests itself in the inability to make productive use of a preschool experience and in a limited ability to play.

Two types of non-productive preschool children are described: (1) the child for whom physical and social limits are so overwhelming that passivity ensues; and (2) the child who responds to a world he perceives as hostile with a qualitatively similar response—aggressive behavior. Neither child is capable of constructively interacting with his environment.

**Play Intervention and Impulse Control**

The play facilitation method described by Wolfgang (1977) is essentially designed to reconstruct a microcosm of the adaptive process whereby impulses gradually come under the control of needs-expressive language. The underlying assumption is that intervention procedures must take into account the developmental status of the child's impulse control. Theoretically, the hostile perception that passive and aggressive children have of their environment must first be altered before symbolic play intervention is appropriate. The principle source of intervention is the play facilitator.
Reactivation. Reactivation is the term used to identify a set of intervention procedures designed to alter the child's perception of his world as hostile to his needs. First the child learns to experience the play facilitator as a person he can trust, and more specifically, as a person he can trust to help him deal with whatever limits he encounters which exceed his current adaptive capacities. Second, the child is very gradually taught that his play world can in fact deliver interesting and satisfying information to him—i.e. it is not necessarily hostile. Mirroring activities and play experiences with fluid materials form the content of this part of the procedure.

Symbolic Play Training. The use of make-believe language in dramatic and socio-dramatic play is viewed as a set of higher level cognitive skills in which impulsive—i.e., immediate and stimulus-bound—responses to the play environment are delayed and replaced with make-believe ideation that becomes less dependent on continued external stimulation (e.g., new props) for it to be sustained (Singer, 1973). Indicators that impulsive (stimulus-bound) responses are being withheld are "Let's pretend..." and comparable verbal and non-verbal make-believe messages.

Intervention procedures in this latter part of the overall play facilitation method are similar to methods described in previous symbolic play training research. Modelling and participatory intervention are the essential teaching methods.
Given the similarity between symbolic play training components of this play facilitation procedure and previously researched symbolic play training methods, training according to this method can be expected to result in imaginative play gains comparable to those reported in previous research.

**Hypothesis 1a:** Subjects exposed to the play facilitation procedure described by Wolfgang (1977) will show greater gains inimaginativeness, concentration, and affect ratings than a no-treatment control group.

A comparison treatment (Experiment #2) will serve to identify methodological procedures for determining the relative contributions of reactivation and symbolic play training components of the procedure described by Wolfgang (1977). For that comparison treatment, content of the play sessions (i.e., planned activities) will be identical to the content in Experiment #1, but facilitator intervention behaviors aimed at reactivation will be withheld. (See Facilitator's Manual, Appendix A, for a detailed description of both interventions).

**Hypothesis 2a:** The full play facilitation treatment (as described by Wolfgang, 1977) (Experiment #1) will be as effective for increasing imaginativeness, concentration and affect ratings as a modified version of the procedure (Experiment #2) in which only facilitator reactivation interventions are eliminated.
Fantasy Predisposition

Earlier, literature was reviewed which demonstrated that the emergence of imaginative play in preschool children, although developmentally appropriate, is not automatic. Certain environmental conditions seem to be necessary prerequisites for its emergence. Separate but related literature revealed that imaginative play skills training can effectively enhance imaginative play both quantitatively and qualitatively.

Even among groups of children that are relatively homogeneous with regard to IQ, academic performance and socioeconomic level, however, individual variations of considerable magnitude in imaginative play levels can be observed (Singer, 1973). Comparable individual differences are observed in adult fantasy behavior as reflected in daydreaming, for example. Singer (1973) has suggested that these early tendencies to engage in greater or lesser amounts of imaginative play may be continuous with observed adult tendencies toward greater or lesser fantasy behavior and that these tendencies may be reflective of a general life style or fantasy predisposition.

Estimating Fantasy Predisposition

Attempts to estimate fantasy predisposition have drawn largely from projective techniques in general and from the Rorschach procedure in particular. Rorschach (1942) observed that subjects who gave greater numbers of human movement (M) responses to inkblots also tended to be more imaginative. He
further noted that a higher frequency of M responses was associated with controlled overt motor activity. Singer (1960, 1968) has reviewed a substantial body of literature which supports Rorschach's observations. A high incidence of M responses to Rorschach inkblots has thus become one effective procedure for estimating fantasy predisposition and has led to investigations of inhibited motoricity as a behavioral correlate of fantasy behavior and specifically, of imaginative play. Some of this literature will be reviewed shortly.

The Rorschach inkblots have limited usefulness in the estimation of fantasy predisposition in young children because the threshold for M responses is rather high. Other inkblot procedures have been devised, however, with lower M thresholds that do effectively discriminate among young children—e.g., Barron Movement Threshold Inkblot, (Barron, 1955) and Holtman Inkblot Test (Holtzman et al, 1961). Other projective methods have also been found useful, although not all are as easily scored as the Barron and Holtzman procedures. Weisskopf (1955) described a transcendence system for use with the Thematic Apperception Test. The index obtained reflects the extent to which the subject reports information that is not present in the stimulus card.

**Correlates of Fantasy Predisposition**

In a study conducted by Singer (1973), forty subjects aged 6 - 9 of fairly homogeneous (middle) SES and intelligence
(somewhat above-average), were designated high or low fantasizers on the basis of their responses to the IPP. A structured clinical interview was administered. It was designed to obtain information regarding fantasy and other play activities. A story-telling procedure was also administered. Subjects were instructed to make-up stories to verbally administered stimuli. The stories were rated for indications of creativity and need achievement. A measure of motor control and capacity to delay responses was obtained by exposing subjects to a definite and an indefinite induced wait condition. Finally, a color-choice test known to be associated with Need Achievement was administered.

Results disclosed that high fantasy predisposition was associated with earlier birth order, greater frequency of interaction with parents, and expressed preference for one parent (father). Highs clearly obtained higher imaginativeness ratings for imaginativeness of their stories than did lows. In both definite and indefinite wait situations, highs were more able to control motor behavior and endure delays than were lows. Results of the color choice test revealed that highs most often selected the cool blue-greens associated with high need achievement whereas lows preferred the red-yellows (associated with low need achievement).

Other Investigations of Fantasy Predisposition

In one study of 2 - 5 year olds, Singer and Singer (1973) classified subjects high or low on fantasy predisposition
(1) "What is your favorite game?" (2) "What game do you like to play best when you are alone?" (3) "Do you ever have pictures in your head?" and (4) "Do you have a make-believe friend?" (Singer, 1973, p. 59). Subjects' spontaneous play was then observed in two play conditions—a structured and a free-play condition. In the investigation, play conditions emerged more powerful than predisposition to fantasy in determining ratings of imaginativeness during play. The investigators attribute that finding to the extreme differences between the two play conditions. Studies will be reviewed shortly, however, in which fantasy predisposition was found to be as and more powerful than other factors.

Biblow (1973) examined the relationship between fantasy predisposition and overt aggressive behavior and mood. Fifth grade subjects in this investigation were assigned to high or low fantasy level designations on the basis of scores on Holtzman Inkblot Test (Holtzman et al, 1961) and "Just Suppose" task (Torrance, 1966). Subjects were also rated on imaginativeness, overt aggression and mood during a play period in which frustration was experimentally induced. Subjects were subsequently exposed to aggressive or non-aggressive films (a fantasy experience), and then rated again on overt aggression and mood during a free play period.

The investigator reports that high fantasy level subjects were able to effectively reduce overt aggression scores under both conditions of aggressive or non-aggressive films. No
changes in overt aggression were observed for low fantasy subjects under either film condition. Highs seemed to respond with decreased aggression to the films as a fantasy experience rather than to the specific content of the films. Significantly different mood changes were also observed for high and low fantasy subjects. For high fantasy level subjects, there were decreases in angry-annoyed scores to either film and increases in sad-downhearted and ashamed-contrite mood scores to the aggressive film and increase in elated-pleased mood scores for the non-aggressive film. No mood changes were observed for any of the low fantasy level subjects and for high fantasy level subjects who were not exposed to a film (fantasy experience). High fantasy subjects seemed able to utilize another stimulus situation (e.g., aggressive or non-aggressive film) that was less negative and intense than those experienced in the play situation to effect mood changes.

Biblow (1973) also reported that lows were more motorically oriented than highs. This finding is consistent with Rorschach's observations cited earlier and with reports from a number of other investigations (Singer and Singer, 1973; Freyberg, 1973; and Pulaski, 1973).

Pulaski (1973) conducted an investigation to examine the interactive effects of two levels of fantasy predisposition and two structures of toys (high structure or realism, and minimal structure or realism). Sixty-four white Kindergarten, first, and second grade children of high SES and above average
verbal ability were classified high or low with regard to fantasy predisposition on the basis of scores obtained from the following measures: (a) Barron Movement Threshold Ink-blots (Barron, 1955); (b) IPP, (Singer, 1973); and (c) a transcendence index derived from stories subjects told with their own drawings as the stimulus.

Five categories of play materials were matched for the two toy conditions: (1) paints (2) clay (3) construction materials (4) dolls, and (5) costumes. Subjects were individually exposed to both toy conditions in random order for two 15-minute sessions each. Subjects were instructed to "play with anything you choose, but I'd like you to make up a story or put on a play for me." (p. 83). An observer recorded verbal play behaviors from behind a one-way vision screen.

At the end of the second play period with each toy condition, the subjects' play was interrupted and the subject was instructed to stop what he was doing and make up the most exciting story possible about a miniature rubber cowboy doll.

One day after the conclusion of the play sessions, subjects were asked which toys they preferred and offered a choice of a small prize (highly structured, sex-typed toy--plastic racing cars and tiny doll carriages containing a baby doll--or a minimally structured play material--play-doh.)

Children's verbalizations during the play sessions were rated for richness of fantasy (transcendence index, a five-point rating scale that established how distant fantasy
content was from daily reality, and a three-point scale for organization of verbal fantasy), variety of themes produced, time spent in play with any one toy, affect, motility, concentration, and flexibility.

As predicted, the minimally structured (MS) toys elicited greater variety of imaginative play themes than high structure (HS) toys. In addition, HS toys elicited greater motility from both high and low fantasy level subjects than did MS toys.

The predicted interaction between toys and fantasy predisposition was not upheld. MS toys did not elicit more imaginative play from highs and HS toys did not elicit more imaginative play from lows.

With regard to fantasy predisposition alone, however, highs told less reality-oriented stories than lows, included more make-believe details in their stories, organized stories better, used a greater variety of themes, obtained higher concentration ratings, showed more positive affect and showed greater flexibility. In addition, highs expressed preference for MS toys while lows indicated a preference for HS toys. Results from the prize selection procedure were inconclusive.

Pulaski (1973) attributed failure to obtain an interaction between fantasy predisposition and toy conditions to the fact that (a) in this sample, fantasy predisposition was already too well established to be significantly influenced by the toy conditions and (b) as a result of attempts to match
toys in the two toy conditions, the two conditions were actually too similar.

An additional observation made by this reviewer is that in defining the two toy conditions, the investigator may have confounded structure (realism) with functional restrictions. This was suggested by the fact that subjects in both toy conditions preferred plastic materials, materials whose functions were less clearly specified.

In the prize-selection procedure, classification of prizes into unstructured and highly structured was further complicated by the inclusion of sex-typed toys (cars and dolls). An array of materials more uniformly categorized along a single dimension might have yielded more interpretable findings.

Functional structure, defined as the extent to which toy uses are prescriptively narrow or broad, was therefore selected as the toy (reward) dimension for an experimental procedure in this project. First, since one differentiating aspect of the two treatment modes in the present investigation is the specific teaching (or not teaching) of a broad repertoire of exploratory play behaviors with fluid or functionally unstructured materials, preferences for high or low functional structure rewards can be expected to be associated with treatment mode. Second, in view of Pulaski's (1973) finding that high fantasy subjects preferred minimally structured and low fantasy subjects preferred high structure toys, when structure
was essentially defined as realism, the functional structure of toy rewards might be expected to be related to fantasy predisposition in a similar manner.

**Hypothesis 1c**: Subjects exposed to the play facilitation procedure as described by Wolfgang (1977) (Experiment #1) will show a different frequency pattern with regard to selection of rewards that are functionally structured or unstructured than a control group. The treated group will show a preference for unstructured and the control group for highly structured rewards.

**Hypothesis 2c**: Subjects exposed to the play facilitation procedure as described by Wolfgang (1977) (Experiment #1) will show a different frequency pattern with regard to selection of rewards that are functionally structured or unstructured than a comparison group (Experiment #2). The experimental group (Experiment #1) will show a preference for unstructured and the comparison group (Experiment #2) for highly structured rewards.

**Hypothesis 3c**: Subjects classified "high on pretreatment fantasy level will show a different frequency pattern with regard to selection of rewards that are functionally structured or unstructured than subjects classified "low" on that variable. "Highs" will show a preference for unstructured and "lows" a preference for highly structured rewards.

In the Freyberg (1973) investigation reviewed earlier, post imaginative play training ratings revealed that high
fantasy level subjects were significantly more responsive to play training than low fantasy level subjects. This effect was obtained for both imaginativeness and concentration ratings but not for affect ratings. Highs and lows showed comparable affect gains. Freyberg indicates that pre-intervention affect ratings were so low that "any change could only be in an upward direction" (p. 147). This explanation seems inadequate, however, in view of the fact that mean pre-experimental ratings for imaginativeness and concentration were comparably low.

In summary, fantasy predisposition reflects a tendency to engage in fantasy behaviors in general, and, for young children, in imaginative play in particular. It can be multidimensionally assessed, and is associated with capacity to (1) engage in play that is rated as more imaginative, higher in concentration and positive affect; (2) endure enforced wait periods; (3) inhibit motoricity; and (4) reduce overt aggression and change moods from negative to positive or less negative. When high and low fantasy subjects are both exposed to imaginative play training, highs maintain their imaginativeness and concentration ratings advantage over lows.

Hypothesis 3a: Subjects classified "high" on pre-treatment fantasy level will be more responsive to both treatment modes than subjects classified "low" on that variable. This greater responsiveness of highs will be reflected in greater increases in imaginativeness, concentration and affect ratings
Conceptual Tempo

The reader has already seen that M responding on inkblot procedures is associated with imaginativeness and with inhibited motor behavior. Kagan (1966) has noted that M responses typically involve a longer response latency. He suggests that obtained M responses may, to some extent, reflect certain cognitive styles or dispositions.

Kagan (1966, 1966a, 1965) has defined one of these cognitive styles, impulsivity/reflection, or conceptual tempo, as "the degree to which the child reflects upon alternative classifications of stimuli or alternative solution hypotheses in situations in which many response possibilities...are available simultaneously." (p. 488) Under these conditions, impulsive children tend to report the first response that occurs to them or carry out the first solution that seems appropriate. In contrast, reflective children delay before responding, apparently to consider the validity of available response alternatives.

Motivationally, the impulsive child seems to need immediate feedback from his environment, regardless of the quality of that feedback. The reflective child, on the other hand, "behaves as if he cared that his first answer be as close to correct as possible" (Kagan, 1966, p. 489).
Measurement of Conceptual Tempo

Perhaps the most widely used task for assessing conceptual tempo is the Matching Familiar Figures Test (MFF) and variations thereof, in which subjects are shown several items consisting of a picture (the standard) and several similar pictures of a familiar object from which the subject is to select the only one that is identical to the standard. The final score is a combination (or ratio) of response latency (average time elapsed before the first responses) and number of errors committed.

The Delayed Recall of Designs Test (DRT) and Haptic-Visual Matching Test (HVM) are other instruments frequently used to determine conceptual tempo. These three instruments were essentially those used in the original empirical derivation of the conceptual tempo construct.

Developmental Trends in Impulsivity/Reflection

A substantial number of investigations indicate the following:

1. Lower class subjects tend to be more impulsive than middle class subjects (e.g., Schwebel, 1966; Heider, 1971).
4. There is usually a negative correlation between number of errors and response time (Kagan, 1965, 1966).


**Correlational Investigations of Conceptual Tempo**

A few correlational investigations of conceptual tempo are especially relevant to this discussion. These are briefly reviewed below.

Harrison and Nadelman (1972) investigated the relationship between conceptual tempo and capacity to inhibit motor movement upon request. Subjects were 50 black middle class preschool children. Error and latency scores from MFF were used to classify subjects as either impulsive or reflective. Maccoby et al's (1965) Draw A Line Slowly and Walk Slowly Tests were administered. Ability to inhibit movement on the latter two measures correlated positively and significantly with response latency and negatively and significantly with errors (MFF task). Reflectives manifested greater motor inhibition than impulsives. A sex difference also emerged.

Banta (1970) reported a similar finding. In his population, a significant correlation of .37 was obtained between impulse control (as estimated by the Draw-A-Line-Slowly task in the Cincinnati Autonomy Test Battery) and reflection (Early Childhood-Matching Familiar
Figures, Cincinnati Autonomy Test Battery) using error scores only. Latency responses were reportedly not meaningful for this population of preschool children (low SES, black).

Investigations by Banta (1970), Harrison and Nadelman (1972) and Meichenbaum and Goodman (1969) suggest that the cognitive disposition of conceptual tempo is operative in motor as well as in cognitive tasks.

Meichenbaum and Goodman (1969) investigated the relationship between conceptual tempo and self-talk, or speech-for-self as an instigator-inhibitor of behavior in two motor tasks; a finger tapping exercise and a motor depression task. Subjects were 30 Kindergarten children.

Impulsive children emitted significantly more self-instructions than reflective children. However, impulsives seemed to use words "as a metronome effect" (p. 791), apparently relying more on the motor than on the semantic component of speech. Reflectives used self instructions less frequently and as meaningful cues related to their non-verbal task performance. The effects of self-talk on impulsives and reflectives were more dramatic when self-instructions were covert than when they were overt (uttered out loud).

**Modifiability of Impulsivity**

Experimental procedures employing enforced delays, modelling and specific training to inhibit rapid responses to MFF have generally resulted in increased response latencies but no decrease in error scores.
Debus (1970) identified 50 male and 50 impulsive third graders and then randomly assigned them to one of four experimental modelling conditions or a control group. The four experimental conditions were: (1) a positively reinforced reflective model; (2) an impulsive model who received less positive reinforcement; (3) a change condition in which an impulsive model changed to a reflective strategy midway through the modelling period; and (4) a dual (impulsive and reflective) modelling condition with contrasting reinforcement contingencies. The first condition resulted in increased latencies for both boys and girls. Only girls were responsive to conditions three and four. In addition, only girls who had observed the change model maintained increased latencies on a delayed post test. None of the experimental conditions was effective in significantly decreasing error scores.

Yando and Kagan (1968) investigated the effects of teacher conceptual tempo from fall to spring of one school year. No meaningful changes were observed with regard to error scores. However, subjects in classrooms with reflective teachers demonstrated significantly increased response latencies on the spring administration of the MFF. The design did not permit the investigators to determine the nature of the mechanisms that effected response latency changes.

Kagan, Pearson and Welch (1956) trained 155 impulsive first graders to delay responses. Training consisted of encouraging subjects not to make errors, to think and delay
before responding. The trainer also modelled those strategies on a training task. Subsequent to training, subjects attained response latencies of matched reflectives but did not reduce their rate of errors.

Heider (1971) compared the relative effectiveness of three procedures for modifying an impulsive tempo. Two separate experiments were conducted with white 7 and 9 year old lower and middle SES subjects enrolled in a remedial tutoring program. The three conditions to which subjects were randomly assigned were (1) enforced latency (2) induced anxiety over errors, and (3) teaching of proper task strategies. Neither of the three manipulations affected middle SES subjects and only the task strategy condition significantly decreased errors for the visual task (for low SES 7 year olds). Both task strategy and delayed response significantly decreased errors on the verbal task applied to the low SES 9 year olds.

Zelniker, Jeffrey, Ault and Parsons (1972) provided task strategy training for forty 9 year olds enrolled in a university elementary school. Impulsives reduced the number of errors on MFF and therefore transferred newly acquired strategies from the training task (Differentiating Familiar Figures). Reflectives were unaffected by experimental manipulations. These results were interpreted to mean that prior to training, reflectives already had task strategies which were functioning efficiently for them and thus had no need to change. Impulsives, on the other hand, did change toward more effective
strategies with the result being decreased rate of errors.

Finally, in two related studies, Meichenbaum and Goodman (1971), demonstrated that both increased latency and decreased errors on a cognitive impulsivity task (MFF) result when a cognitive self-instructional training procedure is employed. In one of those studies, 15 impulsive second graders from a remedial class in a public elementary school were randomly assigned to one of three conditions: (1) cognitive-self-instructional, (2) attention control, or (3) no-treatment control. Cognitive self-instructional training consisted of the following steps: (a) the model verbalized appropriate task strategy (including delay) while he modelled task performance; (b) the model verbalized task strategy while the subject performed the task; (c) the subject overtly verbalized the task strategy while performing it; (d) the subject whispered task strategy while performing it; and (e) the subject covertly verbalized the task strategy while performing the task. This procedure was designed to investigate the possibility of using subject self-verbalizations to improve task strategy (both latency and error). Secondly, it was designed to correspond with developmental findings with regard to the process of speech internalization and its relationship to behavior control. With regard to three dependent measures—Porteus Maze Test, MFF and three performance subtests from the WISC, the experimental group improved significantly relative to both control groups.
In the second investigation, 15 Kindergarten and first grade impulsives received 20 minutes of training in one of three conditions: (1) modelling (performance plus verbalization), (2) modeling plus self-instruction, and (3) a placebo condition in which a model performed the same tasks as in conditions one and two, and subjects had an opportunity to perform. In the latter condition, no specific strategies were taught. Subjects were simply instructed to "go slow" and amply reinforced for their efforts.

The modelling alone condition (#1) resulted in increased latency but no concomitant decrease in error. The combination treatment (model plus self-instruction) resulted in both increased latency and decreased errors. Impulsives were apparently taught to use private speech to orient, organize and regulate their behavior with the net result being greater self-control.

In summary, conceptual tempo is a cognitive disposition that reflects a tendency toward greater reflection with age, that tends to be fairly stable over time and across different tasks, and that is relatively independent of traditional verbal ability scales. The impulsive disposition is more often associated with lower SES children although individual variations are clearly in evidence within all SES levels. Investigations of its modifiability have revealed, in general, that only the latency response is improved when enforced delays constitute training. To reduce the error component, the research
indicates that appropriate task-strategies must be modelled and that, ideally, subjects must verbally guide their own behavior using modelled self-instructional task strategies.

**Conceptual Tempo and Fantasy Predisposition**

Earlier in this review, the writer reported Singer's suggestion that measures of conceptual tempo might be useful in a multidimensional assessment battery for fantasy predisposition. This proposition was based on the observed association between inhibited motor behavior and M responding to inkblots and on the fact that M responses usually reflect higher response latencies.

In the Wolfgang (1977) model of play facilitation, it is proposed that for the preschool child, make-believe language gradually acquires a behavior-controlling function in that the child delays a stimulus-(reality) bound response to his environment and substitutes a response selected from personally generated make-believe ideation. This theory seems to be consistent with the theory and research reported by Luria (1959, 1961) showing the gradual development of speech-for-self as both a director and an inhibitor of motor behavior.

**Hypothesis 3b**: High fantasy level subjects will score higher (more reflective) on a measure of conceptual tempo and will show greater capacity to inhibit motor behavior on request (score lower) than low fantasy level subjects.

**Hypothesis 2b**: Imaginative play training (according to both treatment modes) will result in gains on a measure of
conceptual tempo (gains = more reflective) and increased capacity to inhibit motor behavior on request.

**Hypothesis 4**: There will be a positive association between reflection and motor inhibition both prior to and subsequent to play training according to both treatment modes.
Overview

A brief overview will serve to guide the reader through the methodological details that comprise this chapter.

Eighteen subjects (mean age 4 years, 9 months) from one preschool classroom were individually pretested using the following measures:

a. The Wechsler Preschool and Primary Scale of Intelligence (WPPSI, Wechsler, 1967).


c. Imaginativeness, concentration and affect ratings of pretreatment play observation protocols (Freyberg, 1973).

d. The Early Childhood-Matching Familiar Figures Test (EC-MFF) from the Cincinnati Autonomy Test Battery (CATB, Banta, 1970).


f. An experimental reward selection procedure.

A median split on the average of two pretest scores converted to standard scores (IPP and imaginativeness ratings) was used to classify subjects as high or low with regard to pretreatment fantasy levels. Approximately equal numbers of highs and lows were assigned to two treatment groups.
Two experiments were conducted sequentially.

**Experiment #1:** The first group of nine subjects received a six-week play facilitation treatment described by Wolfgang (1977). All 18 subjects were post-tested on measures c, d, e, and f above.

**Experiment #2:** The second group of nine subjects then received a six-week variant of the Wolfgang procedure. For this variant, the "process emphasis" labelled "reactivation" was eliminated while the content of the play sessions remained the same as for the first treatment. This second treatment period was followed by a final testing period (identical to post-testing) for all 18 subjects.

Figure 2 on page 62 summarizes the overall plan for project implementation.

Sample

Eighteen subjects (7 boys and 11 girls) ranging in age from 4.25 to 5.25 years (ages computed as of Jan. 17, 1977) were selected from a single preschool classroom at a day care center in a mid-western university community. A brief written description of the study was given to parents of all the children enrolled in that classroom requesting permission for their child to participate in the project. Of the 21 letters sent, 19 parents responded, and only one of these refused to grant permission (the reason given was that the child was to be withdrawn from the preschool before projected completion of the project). Of the 18 who were permitted to participate
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<td>Select Observers, Examiners, and Raters</td>
<td>Desensitize Sample to Observations</td>
<td>Pre-Testing Pre-Observations</td>
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<td></td>
<td>Begin Training of Observers and Examiners</td>
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April 20-May 2

Follow-Up Testing and Follow-Up Observations

N = 17

Debrief parents and school personnel

Overall Plan for Project Implementation

Figure 2
only one child was withdrawn from school before termination of the project, and in that one instance, only follow-up data are missing.

Demographic Information. In 7 out of 18 cases, the children were living with a single parent (mother). Within this subgroup, two of the mothers were working (college) students, one had a professional job, and the remainder were employed in clerical or related service jobs. Within the remaining group (11) with fathers present in the home, three fathers were employed in a professional capacity while the remainder were employed in technical/managerial capacities.

Eight of the subjects had one sibling. Equal numbers of these were younger and older than the subject. Only one subject had multiple siblings, one older and two younger.

Half (9) of the sample had at least one previous experience in another group setting. Only three of those subjects with previous day care or preschool experience were eventually assigned to treatment group A, while six subjects with comparable previous group experiences were assigned to treatment group B.

Table 1 on page 64 summarizes the above information.

Setting

The physical setting in which all data (except for natural observations of spontaneous play behavior) were obtained and treatments conducted was a 10 x 10 foot office adjacent to the center director's office. This outer office was
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<tr>
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<td>no</td>
<td>---</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
equipped with a large metal office desk and two office chairs. It was carpeted, well-lit, and ventilated both mechanically and via a large window.

During testing phases, a small table and two chairs were introduced into the office (referred to during testing as the "games room". During treatment phases of the project, the office was called the "special playroom". Then, toys and play materials were arranged in a close semi-circle as depicted in Figure 3 on page 66 to minimize the necessity for extensive physical movement and to make readily accessible the entire range of play objects (L. B. Murphy, 1956).

**Playroom Contents**

The following is a list of the toys, play materials and equipment which were in the playroom during each of the individual treatment sessions:

**Toys**

- large set of architectural table blocks (natural wood color, varied sizes and shapes)
- 2 sets miniature bendable doll families (5-6 in. in height, dressed realistically)--1 black and 1 white family, each having a mother, father, little girl, little boy, and a baby.
- set of zoo animals (painted wood) including a lion, a tiger, an elephant, a giraff, zebra, and a polar bear (no moving parts).
- set of farm animals (painted wood) including a cow, horse, pig, rooster, chicken, ducks, lamb, and a goose (no moving parts)
- set of realistic doll furniture including items for kitchen, bathroom, living room and bedroom.

**Materials**

- finger paints (red, yellow, blue and green, each in separate 1-pound margarine tubs)
- easel paints (red, yellow, green, blue, each in
Figure 3

The Experimental Playroom
separate baby food jars)
- play-doh (fresh supply, red, blue, green, and white)
- paper (11 x 14)—large supply
- paper plates—large supply
- cotton-tipped swabs
- tongue depressors
- crayons (large supply, assorted colors)
- thumb tacks
- paper towels
- white glue
- masking and transparent tape
- newspapers
- felt markers, 1 each black and red
- chocolate-coated candies

Equipment
- 1 mirror (27 x 14 inches)
- 1 reel-to-reel tape recorder and tapes
- 1 kitchen timer
- 1 child's work table (30 x 20 inches)
- 2 small chairs
- plastic drop cloths for furniture and carpet protec.
- 1 adjustable table easel
- 1 clay board
- 4 large brushes
- 1 plastic painting smock

For the remaining treatment sessions (socio-dramatic play, conducted in triads), the above materials and equipment and toys were removed and replaced with a supply of homemade properties:

- dolls
- baby receiving blankets
- yarn
- string
- large purse
- strips of fabric for "dress-up"
- medical properties (stethoscope, blunt-end scissors, adding machine tape, masking tape, aspirin bottles filled with chocolate coated candy pills, tongue depressors, thermometer)
- play-doh "pet food pellets"
- paper and felt pen markers
- paper megaphones
- telephone
The Classroom

The room in which all observations of spontaneous play behavior were recorded by 4 trained observers was a rather large, square room, well-supplied with a wide range of pre-school materials and equipment. It contained the traditional play areas, i.e., housekeeping area, sand and water tables, multi-purpose rug area, book corner, blocks area, small-toy storage and play area, sink/fountain, "cubbies", tables and special interest centers. A diagram of the classroom layout is not offered here because arrangement of these various areas underwent frequent changes during the project.

Observers

Flyers (See Appendix E) inviting applicants for three observer and two test administrator positions were posted in psychology and education buildings, residence halls, and in a few other conspicuous places on a nearby university campus. Applicants were screened over the telephone and then interviewed in person by the experimenter. Three females were ultimately selected to be observers: one senior and one junior in a psychology program, and a third junior in an education program. These three were given a brief introductory training manual for developing observational skills (See Appendix A). There followed about ten hours of individual and group training.
The bulk of the observer training involved simultaneous written observations of varied durations (from 1 - 5 minutes) done on the same child by all three observers and the experimenter. The age of the observed child and the play setting were varied to ensure development of flexible observational skills. Observations were then compared, observational strengths and weaknesses of each observer identified, and further observations recorded until satisfactory concurrence between observers and the experimenter was attained. To supplement written training observations, and to emphasize the importance of thoroughness, the experimenter also demonstrated appropriate observational skills by orally describing play behaviors. Observers were then assigned in pairs to orally describe play behavior to one another until they achieved a high degree of agreement.

Most of these training observations were conducted using the actual study sample. This served the additional purposes of acquainting observers with subjects and of desensitizing subjects to observers' presence prior to actual data collection.

Nature of the Observations

An acceptable percentage of agreement (82%) was obtained between observers prior to the study allowing the collection of observation data by a single observer. The spontaneous play behavior of each subject was recorded (in writing) in 5-minute segments. Since an unobtrusive data
collection means (e.g., one-way glass) was not available, observers were close to the subjects (sometimes 1 or 2 feet away) during observations. The desensitization of the children to the presence of observers prior to actual data collection was sought to allay the emergence of reactive conditions.

The observers were trained to look for five basic categories of behavior and to record these in detail:

1. All movements, large and small, including postures and positions
2. The quality of movement—e.g., tempo, smoothness, intensity, et.
3. The apparent affect manifested—e.g., expressionless, absorbed, delighted, etc.—qualified by specific behavioral indicators.
4. All verbalizations (as close to the actual as possible) including grunts, humming, singing, actual verbal content, as well as quality of verbalizations (tempo, volume, intensity, articulation, etc.).
5. All uses of play (or other) materials and equipment and quality thereof (e.g., vigorous, absent-minded manipulation, etc.)
6. All make-believe content. The following indicators of make-believe were of particular importance:
   a. simulation of sounds (e.g., airplane or truck sounds, growl of animals)
b. constructions or art-work that were clearly representational and not mere displacements of construction or art materials

c. make-believe threats (e.g., "The goblins are gonna eat you!")

d. verbalizations or other signals (e.g., dress-up) intended to initiate a make-believe situation or establish a make-believe set. e.g., "I'll be the mother and you can be...", "Let's pretend...", "This chair can be the car and...")

e. voice changes used to indicate role-taking

f. verbal content (e.g., "Now baby, you have to go to sleep")

g. movements and uses of play materials, unaccompanied by verbalizations but which indicated that the child was pretending. (e.g., child in large cardboard submarine adjusts periscope, peers through it intently, lowers, periscope, picks up red crayon, makes a few scribble marks on ship's "log", closely examines a nearby map and then traces an on its plastic-coated surface).

The observations were highly behavioral in quality. While qualitative descriptors were admissible and even desirable, these had to be clearly supported by behavioral indicators (e.g., "Subject happily poked holes in the clay with her right fist—the subject's eyes twinkled, her dimples appeared, and she had a wide grin on her face. Subject's facial expressions and the rapid rate of poking holes suggested delight in the process or possibly in the effect she was creating in the clay."

In summary, each observation was a behavioral description of the subject's behavior during a continuous five-minute period. Observers were permitted to make more subjective, qualitative comments, but only if these could be
supported by specific behavioral indicators. This approach was used to help minimize inclusion of potentially inaccurate subjective comments and projections and to maximize the accuracy of the recordings. In addition, because the tendency to make subjective interpretations was fairly strong, observers were invited to write their subjective impressions of the subject in a separate paragraph at the end of the observation. These subjective comments were not considered in the ratings (scoring) of the protocols. Samples of actual observations obtained after training can be found in Appendix A.

Inter-Observer Agreement

One month prior to the start of the project and once again mid-way through the project, the four observers simultaneously recorded the play behavior of three children who were not subjects. Two procedures were applied to these data to establish inter-observer agreement:

a. overall (subjective) impressions of similarity provided by two trained judges using a five-point scale

b. percentage of overlap computed from a breakdown of simultaneous observations into five "content" categories (See Appendix D for a full description of these procedures).

The first procedure, the general rating of similarity, yielded average ratings of 4.15 and 4.75 respectively for the first and second sets of inter-observer agreement data.
The following percentages of overlap were obtained from the second procedure: 83% and 81% respectively for the first and second sets of inter-observer agreement data. These percentages did not attain the desired range (90%+). Weaknesses in the procedures, actual observer expressive differences, and the conditions under which these data were gathered may have accounted for the slightly depressed indices.

**Weaknesses.** The major weakness of the general rating procedure was in differential interpretations of the rating criteria. One judge consistently gave lower ratings than the other. For the second procedure, the most serious difficulty resulted from the fact that categories were not mutually exclusive. The same inter-observer differences therefore appeared repeatedly, lowering the index of agreement.

**Expressive Differences.** The following expressive differences seem to have had the greatest impact on inter-observer agreement indices:

1. Observers differed in the frequency with which they reported that a behavior was continuing.
   
   e.g., "Subject continues to smile."
   "Subject is still kneeling."

2. Observers differed with regard to the level of inference at which they recorded behavior.
   
   e.g., Observer A: Subject's mouth is open; subject pulls in lips
   Observer B: Subject mutters to self inaudibly
3. Observers differed with regard to the level of detail with which they reported. This difficulty appeared to be an intra- as well as an inter-observer difference. 

**Conditions.** Conditions under which inter-observer agreement data were gathered were especially rigorous in that observers were forced to observe the child's behavior from a distance (5-10 feet) because greater proximity of the four observers would have inhibited play behavior.

Of the five content categories (movement, uses of play materials, affect, verbalizations, make-believe), the greatest inter-observer discrepancies occurred in the movement and uses of play materials categories. These findings are reasonable in view of the fact that these were the two most inclusive categories.

However, since at least two observers would record the six observations per subject for each testing session, the obtained indices of agreement were considered acceptable.

**Test Administrators**

The two test administrator positions were advertised with the same flyer described earlier (See Appendix E). Two females, a senior in a psychology program and a housewife with a Masters Degree in Social Work, were selected. Each tester was trained individually by E. Part of the training consisted of administration of the five instruments to a number of available subjects (e.g., neighbors, relatives, etc.). Problems and questions raised by these
experiences were then resolved with E and then further prac-
tice was undertaken. Training continued until E felt that
testers had achieved a high degree of similarity in testing
and until testers felt comfortable with the demands of the
testing task.

Prior to the first data collection phase, testers made
a visit (on separate days) to the preschool. They were in-
troduced by E to the subjects (individually). E explained
that these two persons would be coming to play "games" with
them in the "games room" very soon. The testers remained to
interact (i.e., talk and "play") with the subjects until all
subjects seemed to be comfortable in their presence. Test-
ers also took this opportunity to learn subjects' names and
to note strategies that might be important in interacting
with individual subjects during actual testing.

**Observation Protocol Raters**

The cooperation of two persons, one female doctoral
candidate in an early childhood education program and a male
with a Ph.D. in psychology, was enlisted to rate the proto-
cols. A training manual (See Appendix A ) was prepared and
presented to the raters for perusal prior to the training
period. Approximately six hours of direct group training
(for both raters plus E who served as a third blind rater)
ensued.

For the following reasons, it seemed advisable for the
investigator to remain blind to the identity of the subjects
whose protocols she rated: (1) the investigator was aware of the hypotheses; (2) the investigator also served as treatments facilitator; and (3) pre-treatment imaginativeness ratings formed part of the composite index for assignment to pre-treatment fantasy levels. Since several of the hypotheses were related to fantasy predisposition, it was critical that the investigator remain unaware of fantasy level classifications.

Training consisted of clarifying the rating criteria, defining terms, and then doing simultaneous ratings of the same sample protocols. At the conclusion of training, overall index of inter-rater agreement for three 5-minute protocols was .89% (percentage of overlap). Areas of disagreement were identified and observers continued training on their own using the manual and the additional guidelines which emerged during training. Inter-rater agreement indices (Pearson R's) computed on pre-observational data (n = 20) were .88 for imaginativeness, .92 for concentration, and .73 for affect. Overall inter-rater agreement on these data was .86.

**Procedures**

**Pre-Observations**

For a two-week period beginning in mid-January, 1977 (same two weeks as the pre-testing), the observers came to the preschool on days compatible with their personal schedules during free play period which extended roughly from
10:00 to 11:30 a.m. Each subject was observed for six separate 5-minute periods. Observers recorded approximately one 5-minute behavior sample every 15 minutes, using the remainder of the 15-minute time block to "flesh out" their notes after an observation and to clearly establish the specific play setting prior to the next observation. E gave each observer a schedule of subjects and the time ranges (10:00-10:30, 10:30-11, 11-11:30) during which these subjects were to be observed. The observation schedule was prepared such that:

1. the observations of any one subject were recorded on at least two separate days (and in most cases, three separate days) of the week to avoid a day-of-the-week effect.

2. the six 5-minute observations of each subject were recorded by at least two (and in most cases three) observers (with no observer recording more than three of the total six) observations to avoid an observer effect and/or a potential interaction effect between observer and subject.

3. no subject was observed for two consecutive 5-minute periods (e.g., observation segment #1 on subject X was followed by segment #1 on subject Y). This procedure was adopted in order to ensure that representative and varied samples of play behavior be obtained for each subject.
Observers were instructed to record one observation, make necessary corrections and additions to their notes and then to proceed directly to an observation of another child. More specifically, observers were not to delay any observation on their schedule simply because the subject did not appear to be engaged in play or in productive play—e.g., child was "wandering" or, child was playing a structured table game with a teacher, or subject was running around the room apparently out of control. Since all observations were recorded during indoor free play time, it was presumed that subjects' play behavior during observations would probably be representative of their typical behavior during this regularly-scheduled free-play time.

The same observation procedures were employed for post and follow-up phases during two weeks in early March and two weeks in late April, respectively.

Pre-Testing

Over a two-week period beginning in mid-January, the individual testing as described below was conducted by the two trained examiners. Order of instruments was the same as that in the discussion below. Because of subjects' irregular attendance, it was not possible to randomly assign subjects to one or the other examiner. Neither was it possible in all cases for subjects to be tested by the same examiner during pre-post-and final testing phases. Because subjects
were so young, an effort was made, however, to have subjects tested by the same examiner on all three testing occasions in order to reduce confusion and shyness in test response behavior.

Subjects were escorted individually by E to the "games room" (testing area) where the examiner was waiting. When E felt sure that the subject remembered the examiner and felt comfortable in her presence, E left indicating that she would check back soon and where she could be found if needed.

The examiner established rapport with the child, then administered the following instruments. Total time required varied somewhat with rate of response but on the average was approximately 25 minutes per subject.

(a) Draw-A-Line-Slowly (CATB, Banta, 1970)
(b) Imaginative Play Predisposition Interview (IPP, Singer, 1973)
(c) Early Childhood Matching Familiar Figures (EC-MFF) (CATB, Banta, 1970)
(d) WPPSI Vocabulary subscale (Wechsler, 1967)
(e) The experimental Reward Selection Procedure

In most cases, E escorted the child back to the classroom. Otherwise, the child was escorted back by the tester.

Assignment to Groups
A median split on the average standardized scores of two pre-test measures (IPP Interview and Imaginativeness ratings of spontaneous play observations) determined
classification of all subjects in "high" or "low" pre-treatment fantasy levels. A stratified random assignment procedure then ensured that approximately equal numbers of "high" and "low" pre-treatment fantasizers were assigned to treatments.

Design

Two separate two-factor treatment-by-blocks designs constituted the overall design of this study. In both designs, the two-level blocking variable was pre-treatment fantasy level.

In the first design (experiment #1), Group A received the treatment as described by Wolfgang (1977) while Group B served as a control group. In the second design, (experiment #2), Group A received no further treatment while Group B functioned as a delayed treatment group receiving an alternative treatment.

Treatments

All treatment sessions were conducted by E in accordance with the specific procedural guidelines offered in the Facilitator's Manual (See Appendix A ). Each subject was given six individual, 30-minute training sessions and then three more "group" sessions (in triads), making a total of nine 30-minute sessions per subject. Subjects were scheduled such that each received at least one and usually two training sessions per week. Illness and other absences made it impossible to honor that schedule at all time.
However, a major effort was made to do so.

A brief session-by-session listing of the contents of each session (i.e., the sequence of activities plus approximate times allotted for each activity) follows below. It should be noted that while intervention procedures were systematically varied for portions of Treatment B, the "content" or sequence of activities planned for each session was standard across both treatments.

"Activities" refer to experiences planned with specific play materials or toys. To facilitate this discussion, the activities have been clustered around five groups of play materials/toys:

a. Mirror activities
b. finger painting
c. easel painting
d. uses of play-doh
e. play with miniature life toys

Only approximate times are indicated with each experience. Actual amount of time devoted to each experience varied somewhat with quality and rate of subject response. Intervention procedures for each "activity" conformed to those described in appropriate sections of the Facilitator's Manual (Appendix A).

**Session #1**

**A. Introduction to the Playroom Contents and Procedures**

(3 - 5 minutes)
B. Mirror Activities (9 - 12 minutes)
   1. activation (2 - 3 minutes)
   2. mirroring (3 - 4 minutes)
   3. body referencing (approximately 5 minutes)

C. Finger Painting (10 - 15 minutes)
   Includes 1 - 2 minute Clean-Up Time

D. Free-Choice Activity (Remaining Time)

Session #3
A. Preparation (30 seconds)
B. Mirror Activities (6 - 9 minutes)
   1. activation (2 - 3 minutes)
   2. mirroring (1 - 2 minutes)
   3. body referencing (1 - 2 minutes)

C. Easel Painting--Introduction (15 minutes)
   Includes Clean-Up Time

D. Free-Choice Activity (Remaining Time)

Session #4
A. Preparation (30 seconds)
B. Mirror Activities (5 minutes, approximately)
   1. activation (1 - 2 minutes)
   2. mirroring (1 - 2 minutes)
   3. body referencing (1 - 2 minutes)

C. Easel Painting (7 - 10 minutes)

D. Dramatic Play with Miniature Life Toys (10 minutes, approximately)

E. Free-Choice Activity (Remaining Time)
Session #5
A. Preparation (30 seconds)
B. Mirror Activities (Approximately 5 minutes)
   1. activation (2 minutes)
   2. mirroring (1 - 2 minutes)
   3. body referencing (1 - 2 minutes)
C. Dramatic Play with Miniature Life Toys (10 - 15 minutes)
D. Play-Doh (5 - 10 minutes)
F. Free-Choice Activity (Remaining Time)

Session #6
A. Preparation (30 seconds)
   (Includes reminder that this is last individual session-
   Next 3 turns will be in triads)
B. Mirror Activities (approximately 5 minutes)
   1. activation (2 minutes)
   2. mirroring (1 - 2 minutes)
   3. body referencing (1 - 2 minutes)
C. Dramatic Play with Miniature Life Toys (approximately 15 minutes)
D. Free-Choice Activity (Remaining Time)

Session #7
A. Preparation (5 minutes)
   (Discussion of physical changes in play room and new
   procedures to be followed)
B. Activation (2 minutes)
   Body Referencing (1 minute)
C. Description of Theme-Situation for this session (3 minutes). Present Prop Box for "Pet Store" theme.
D. Socio-Dramatic Play (Theme Enactment) (Remaining Time)
Session #8

A. Preparation (2 minutes) (Reminder that next group session is the last one)

B. Activation (2 minutes)
   Body Referencing (1 minute)

C. Present Theme for Session 8 ("Doctor-Nurse") (3 minutes)
   Present Prop Box

D. Socio-Dramatic Play (Theme Enactment) (Remaining Time)

Session #9

A. Preparation (2 minutes)

B. Activation and Body Referencing (2 - 3 minutes)

C. Present Theme and Prop Box for Session 9 ("Circus")
   (2 - 3 minutes)

D. Socio-Dramatic Play (Theme Enactment) (Remaining Time)

After the completion of the six-week treatment for Group A, all subjects were posttested. Procedures for post-testing were the same as for pre-testing with the exception that two instruments, the WPPSI Vocabulary Subscale and the IPP Interview were not re-administered. Posttesting was thus approximately 15 minutes in duration per subject. Post-observations (six 5-minute segments per subject) were once again recorded in the manner described earlier for pre-observations.

Next followed a six-week period during which the nine subjects in Group B received alternate Treatment B (experiment #2). The Facilitator's Manual contains a detailed description of that second experimental procedure (Appendix A). This alternative treatment was created to explore procedures
for isolating certain components of this method for later examination. Briefly,

1. content (i.e., sequence of "planned activities" with approximate times allotted per activity) was standard for both treatments.

2. The process of reactivation as specifically related to fluid materials and mirror activities was eliminated. Materials and activities were presented as in treatment A (experiment #1), but the facilitator avoided the "process" (reactivation) emphasis. The facilitator's verbalizations consisted mainly of friendly conversation, usually subject-initiated, and often irrelevant to the play activities. The facilitator specifically avoided modeling, eliciting and reinforcing: (a) enjoyment of the play process, (b) experimentation with the sensory properties of the play media, and (c) expansion of subject repertoire of possible play behaviors with play media.

With the completion of the alternative treatment, all subjects were subjected to a final testing/observation that was exactly like the posttesting/observation.

**Debriefing**

A letter (See Appendix E) briefly describing (a) the objectives of the study and (b) in general, what occurred during the play sessions, was mailed to parents of all participating children. In that letter, E announced that she
was making available a certain block of time to parents to respond to their further questions about the project. In addition, parents were informed that they would be provided with a brief synopsis of the project and its outcomes (when available) if they so indicated their interest on an attached form.
Instruments

The Imaginative Play Predisposition Interview

The Imaginative Play Predisposition Interview (IPP) (Singer, 1973) is a simple four-item questionnaire which is designed to elicit self-reported indications of play preferences from young children. The four questions tap information regarding favorite games, preferred solitary play activity, make-believe games, and imaginary playmates. Although brief responses are frequently sufficient for scoring purposes, the measure has been found inappropriate for children younger than ages three and four because of their limited ability to give scorable verbal responses.

Scoring. Responses are scored according to the extent to which they indicate symbolic or make-believe activity. A score of one (1) is assigned to responses suggesting symbolic (make-believe) activity and a score of zero (0) is given when no symbolic activity is suggested. Singer (1973) adds that dividing groups at a score of two or more fantasy replies yields an approximate median split.

Reliability. Although there are no extensive reliability data yet available for this measure, Singer (1973) reports that in one investigation of 40 six-nine year olds, two independent raters obtained complete scoring agreement on the four test items.

Validity. Freyberg (1973) obtained the following Phi Coefficients between IPP and other fantasy
measures: .98, p<.01 (Barron Movement Threshold, Barron, 1955); .99, p<.01 (Teachers' Ratings on the 5-point Imaginativeness Rating Scale); and .08 (Stanford-Binet Vocabulary Subscale). IPP scores also correlated .81, .78, and .76 with pre-treatment Imaginativeness, Concentration, and Affect ratings, respectively.

The Vocabulary Subscale of the Wechsler Preschool and Primary Scale of Intelligence (WPPSI)

The Vocabulary Subscale of the WPPSI (Wechsler, 1967) consists of 22 verbally administered vocabulary items to which the subject must give a verbal response. The full scale measure was designed for and standardized on children aged 4-6½ years.

Scoring. Each response is scored either 0, 1, or 2. A score of 2 is given for any response that indicates full understanding of the stimulus word. Poverty of response content is penalized by 1 point (score=1). Zero scores are assigned to obviously wrong answers, to verbalisms reflecting lack of understanding, and to vague or trivial responses. The sum of individual item scores is converted to a scale score with a mean of 10 and a standard deviation of 3.

Reliability. Wechsler (1967) reports the following internal consistency indices (odd-even, corrected by Spearman-Brown): Age: 4, r = .82, N=200; 4½, r = .84, N=200; 5, r = .78, N=200; 5½, r = .85, N=200

A stability coefficient obtained for 50 children aged
5.25 to 5.75 years after a mean re-test interval of eleven weeks was .77.

Inter-correlations of the Tests. Inter-correlations (N=200) between the Vocabulary Subtest and the Full Scale IQ and the Verbal Scale Score are reported below:

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<th>Age</th>
<th>Verbal Scale Score</th>
<th>Full Scale IQ</th>
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<td>.63</td>
<td>.63</td>
</tr>
<tr>
<td>4½</td>
<td>.65</td>
<td>.62</td>
</tr>
<tr>
<td>5</td>
<td>.64</td>
<td>.71</td>
</tr>
<tr>
<td>5½</td>
<td>.70</td>
<td>.76</td>
</tr>
</tbody>
</table>

Correlations with Other Measures of Intelligence

On a sample of 98 children, aged 5-6 years, Wechseler (1967) reports that the Vocabulary Subscale of the WPPSI correlated .53 with the Stanford-Binet (Form I-M), .40 with the Peabody Picture Vocabulary Test (Form A, Dunn, 1959), and .22 with Pictorial Test of Intelligence (French, 1964). These correlations are somewhat lower than the inter-correlations of the WPPSI subtests.

Reward Selection Procedure

A "prize selection" procedure described by Pulaski (1973) served as a model for the development of this experimental reward procedure. According to the Pulaski procedure, prizes were either a high structure (realistic, sex-typed) toy (tiny racing car or doll carriage with doll baby inside) or a minimally structured (less realistic) play material (tin of commercial play-doh).

In the present investigation, the procedure was altered in the following two ways: (1) The criterion dimension for
selection and classification of toys/play materials was functional structure. Functional structure was defined as the extent to which the uses or functions of the play material were prescriptively narrow or relatively open-ended. For example, fluid materials such as finger paints or play-doh were classified as unstructured in that they place few restrictions on exploratory functions that can be exercised upon them or upon the products into which they can be formed. In contrast, a coloring book and a puzzle were classified as structured in that the range of functions for each is more clearly specified and narrow—the coloring book prescribes coloring within designated forms; the puzzle prescribes assembly into a specific design or picture.

(2) The array of possible selections was expanded to eight (four each structured and unstructured) because the procedure was to be administered on three occasions. The larger array was intended to permit selection of a different toy option at each administration and yet allow subjects to make all selections from the same classification if desired.

The four structured items were: (1) puzzles, (2) coloring book, (3) card game ("Old Maid"), (4) bubble-blowing solution/wand. The four unstructured items were: (1) small commercial pots of finger paints, assorted colors, (2) tins of commercial play-doh, assorted colors; (3) box of colored chalk, and (4) box of crayons.
The procedure was intended to provide an index of subject preferences for structured or unstructured rewards prior to and subsequent to treatments.

**Procedure.** At the conclusion of each of three testing periods, the test administrator indicated to the subject that she had enjoyed the subject's company and/or that the subject had been very helpful. The tester then opened and presented a box with each of the reward options displayed. The subject was told he/she could choose one of the rewards. The subject was then given as much time as s/he needed to make the selection. Comments made by the subject during the selection procedure and which were relevant to the procedure were recorded by the tester on the reward selection form. All choices, including tentative ones, were recorded chronologically.

**Score.** The "score" was simply an indication as to the category, structured or unstructured, to which the selected reward belonged. Frequency patterns for structured and unstructured selections in each treatment group were analyzed.

Validity and reliability data for this procedure are yet to be determined.

**The Early Childhood-Matching Familiar Figures (EC-MFF)**

The EC-MFF is an instrument used to estimate the cognitive style of reflectivity in preschool children.
(aged three and four). It is one of fourteen separate instruments that constitute the Cincinnati Autonomy Test Battery (CATB, Banta, 1970). It is a downward simplification of the childhood form of MFF (Kagan et al, 1964).

Reflectivity is defined as "the tendency to wait before making a response that requires analytic thinking, when the task demands it." (p. 426) As such, reflectivity purportedly permits more information processing and therefore should prevent irrational action based on inadequate information or on impulsive forces. It is viewed as a "valuable aid to effective problem-solving" (p. 426).

The EC-MFF test is essentially comprised of 10 visual matching/discrimination tasks. Each of the ten tasks consists of a standard figure and a set of similar figures only one of which is exactly like the standard. Half of the pictures are social in character; the remaining half are non-social or geometric designs. Three training tasks are included to ensure that subjects comprehend the task instructions.

**Scoring.** The scoring procedures for all forms of MFF, including the EC-MFF, are designed to penalize quick, unconsidered responding, and to reward slow, deliberate responding. Forms for older subjects are typically scored in two ways: (1) for timed latency of the first response; and (2) for number of errors committed. In general, timed latencies have been found to correlate negatively with error
scores (Kagan, 1966; Kagan, 1966a). With preschool children, however, timed latencies have not been found useful. Increased latencies with three's and four's are apparently frequently due to off-task or fantasy behavior. Therefore EC-MFF is scored for correct responses only. Scores range from zero to twelve, with higher scores indicating greater reflectivity. Banta (1970) reports a mean of 4.20 and standard deviation of 1.89 (N=71) on this measure for subjects from a black public housing area and a black ghetto area.

**Reliability.** An internal consistency index of reliability ("odd-even") obtained for low SES black children aged three and four (N=62) was .37 (p<.01) (Banta, 1970). No other reliability data were available in that investigation.

**Validity.** The following significant (p<.01) inter-correlations with other instruments in the CATB were obtained by Banta (1970): Early Childhood-Embedded Figures Test (.49), Intentional Learning (.48), Kindergarten Prognosis (.48), Task Competence (.44), Incidental Learning (.43), Social Competence (.40) and Impulse Control (.37). (N = not reported.) The fact that reflectivity correlated positively and highly with Kindergarten Prognosis is an indication that the successful Kindergarten child is controlled and appropriately inhibits impulses. Those significant inter-correlations also indicate that the reflective child is not generally response-inhibited, but rather
tends to inhibit responses under task-appropriate conditions.

**Draw A Line Slowly (D-A-L-S)**

The D-A-L-S (Banta, 1970) is also an instrument from the CATB. It is designed to estimate capacity to inhibit motor behavior when the task demands it. Like the EC-MFF, it does not indicate generalized motor inhibition, but rather assesses task-appropriate, self-regulated inhibitory behavior.

**Procedure.** The test administrator first establishes that the subject differentiates between "fast" and "slow" when asked to "draw a line as fast (or "as slow") as you can". The subject then has three trials to "draw a line slowly". Before each trial, the subject is instructed to draw this line more slowly than the last. For the second and third trials, two large X's are placed exactly eight inches apart. The subject is instructed to slowly draw from the midpoint of the farther X to the midpoint of the nearer one.

**Scoring.** The length of each of the three lines is measured using a device for calculating distances on maps. The length of each line is divided by the time (in hundredths of a second) taken to complete the line. The overall score is an average of the ratios obtained from the three trials. Because a cartographer's measuring device was unavailable, a compass, set for one millimeter, was used to calculate length of each line.
Reliability. Banta (1970) reports three types of reliability data for this measure. Test-retest reliabilities \((N = 33)\) were \(0.43 (p < 0.05)\) and \(0.41 (p < 0.05)\) after a two-month and a one-month delay respectively. The preponderance of the subjects in the sample tested were low SES black preschool children.

Using comparable samples, indices of internal consistency for the three lines drawn were \(0.72, 0.66, \text{ and } 0.69 (p < 0.01)\) after a two-month delay \((N = 32)\). Correlations among the three lines after a one-month delay \((N = 74)\) were \(0.55, 0.47, \text{ and } 0.80 (p < 0.01)\).

Banta (1970) also reports one index of inter-rater reliability: \(r = 0.90, p < 0.01 (N = 30)\).

Validity. With N's varying from 79-84, Banta (1970) reports that D-A-L-S correlated significantly \((p < 0.01)\) with the following measures: Kindergarten Prognosis \((0.31)\), Persistence \((0.28)\). It also correlated significantly \((p < 0.05)\) with the following: Resistance to Distraction \((0.27)\), Task Competency Ratings \((0.25)\), and Innovative Behavior \((0.23)\). Banta interprets the low positive correlation \((0.17)\) with Social Competence as evidence of discriminant validity.

This instrument was developed from a similar procedure used by Maccoby et al (1965). The Maccoby D-A-L-S (along with other related measures of movement inhibition) were found to correlate positively and significantly with Binet
IQ scores. Banta (1970) also reported a significant correlation (.24) for D-A-L-S and Stanford-Binet full scale Scores ($N = 76$).

**Rating Scales for Imaginativeness, Concentration and Affect**

The five-point rating scales for imaginativeness, concentration and affect were developed by Freyberg (1973) from similar scales used by Pulaski (1973). The scales are designed for use with observational data of children at play.

The imaginativeness rating scale provides an assessment of the extent to which (1) the child's play incorporates make-believe elements; (2) the make-believe elements depart from common experiences; and (3) the make-believe play is organized and developed around a role, theme or situation.

The concentration scale essentially rates the child's persistence in a play activity and his resistance to distraction during play.

The affect scale rates the extent to which the child manifests interest and enjoyment of the play materials or activities.

**Scoring.** Scores of 1 (low) indicate no evidence of make-believe play (imaginativeness), high distractibility and/or failure to persist with play activities (concentration), and no evidence of interest or enjoyment (affect).
A score of 5 on these scales is "high".

Reliability. Freyberg (1973) reports inter-rater reliabilities for three independent raters, two of whom were unfamiliar with the purpose of her investigation. The significant (p < .01) Kendall Coefficients of Concordance for pre-experimental ratings were .89, .88, and .87 respectively for imaginativeness, concentration and affect ratings. Kendall W Coefficients for post-experimental observation ratings were .87, .86 and .85 respectively for imaginativeness, concentration and affect. These latter coefficients all achieved the .01 significance level and establish that the three raters were in agreement in applying the criteria of the three rating scales to the behavioral protocols.

Validity. Freyberg (1973) obtained the following evidence of construct validity. The Phi coefficient between pre-experimental imaginativeness ratings and a composite fantasy score (derived from the Barron Movement Threshold Inkblot, The IPP, and teachers' assessment of each child's fantasy level) was .81 (p < .01). That evidence suggests that the imaginativeness rating scale was measuring the same dimension of behavior as the measures to which it was compared.

The following inter-correlations were obtained by a multiple regression procedure (Freyberg, 1973):
Pre-experimental imaginativeness ratings and Barron Inkblot scores (.79), and teacher ratings of fantasy (.80), and IPP scores (.81). Pre-experimental concentration ratings and Barron Inkblot scores (.73), and teacher ratings of fantasy (.75), and IPP (.76). Pre-experimental affect ratings and Barron Inkblot scores (.78), and teacher ratings of fantasy (.76), and IPP (.78). These high inter-correlations indicate that the rating scales predict with considerable accuracy the symbolic play behavior of young children.
CHAPTER IV
RESULTS

Sources of Data: Pretreatment

Pre-treatment data were obtained (a) to establish pre-experimental equivalence of treatment groups and fantasy level groups on dependent measures; (b) to assess possible confounding of scores on dependent measures by verbal ability; and (c) to assign subjects to one of two levels of a fantasy variable.

A description of data sources follows below along with reports of obtained pre-test levels for each source. Table 2 summarizes pre-experimental means and standard deviations for all measures.

1. An estimate of verbal ability was obtained from the Vocabulary subscale of the Wechsler Preschool and Primary Scale of Intelligence (WPPSI; Wechsler, 1967).

2. Pre-experimental levels of imaginativeness, concentration and affect were obtained from the ratings of the natural observations of subjects' play during free play period in the preschool classroom setting.

3. A combination of results of the two measures was used to classify subjects high or low with regard to fantasy pre-disposition. Those two measures were: (a) pre-experimental imaginativeness ratings; and (b) scores on Imaginative Play Predisposition Interview (IPP, Singer, 1973).
Table 2

Means and Standard Deviations for Scores on all Pre-Experimental Measures

<table>
<thead>
<tr>
<th></th>
<th>AGE</th>
<th>VERBAL ABILITY</th>
<th>IPP</th>
<th>IMAG. RATINGS</th>
<th>FANTASY LEVEL INDEX</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Treatment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group A n = 9</td>
<td>4.8</td>
<td>10.67</td>
<td>1.78</td>
<td>1.64</td>
<td>51.29</td>
</tr>
<tr>
<td></td>
<td>(.325)</td>
<td>(2.29)</td>
<td>(.912)</td>
<td>(.45)</td>
<td>(6.35)</td>
</tr>
<tr>
<td>Group B n = 9</td>
<td>4.10</td>
<td>10.11</td>
<td>1.44</td>
<td>1.74</td>
<td>48.73</td>
</tr>
<tr>
<td></td>
<td>(.221)</td>
<td>(2.32)</td>
<td>(.839)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Fantasy n = 9</td>
<td>4.10</td>
<td>10.00</td>
<td>2.11</td>
<td>1.95</td>
<td>55.25</td>
</tr>
<tr>
<td></td>
<td>(.263)</td>
<td>(1.56)</td>
<td>(.57)</td>
<td>(.24)</td>
<td>(2.95)</td>
</tr>
<tr>
<td>Low Fantasy n = 9</td>
<td>4.90</td>
<td>10.80</td>
<td>1.44</td>
<td>1.42</td>
<td>44.77</td>
</tr>
<tr>
<td></td>
<td>(.297)</td>
<td>(2.52)</td>
<td>(.839)</td>
<td>(.45)</td>
<td>(4.17)</td>
</tr>
<tr>
<td>Overall n = 18</td>
<td>4.90</td>
<td>10.39</td>
<td>1.61</td>
<td>1.69</td>
<td>50.01</td>
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<td></td>
<td>(.289)</td>
<td>(2.14)</td>
<td>(.916)</td>
<td>(.44)</td>
<td>(6.36)</td>
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<tr>
<td></td>
<td>CONC. RTGS.</td>
<td>AFFECT RTGS.</td>
<td>IMPLSVTY/MOTOR INHIBIT.</td>
<td>REWARD PREFERENCE</td>
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<tr>
<td>Treatment</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Group A n = 9</td>
<td>2.72</td>
<td>2.71</td>
<td>7.78</td>
<td>1.97</td>
<td>S 4 5</td>
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<td></td>
<td>(.51)</td>
<td>(.31)</td>
<td>(2.10)</td>
<td>(1.16)</td>
<td></td>
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<tr>
<td>Group B n = 9</td>
<td>2.68</td>
<td>2.61</td>
<td>7.89</td>
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</tr>
<tr>
<td></td>
<td>(.48)</td>
<td>(.44)</td>
<td>(2.43)</td>
<td>(1.20)</td>
<td></td>
</tr>
<tr>
<td>High Fantasy n = 9</td>
<td>2.73</td>
<td>2.72</td>
<td>8.00</td>
<td>2.18</td>
<td>5 4</td>
</tr>
<tr>
<td></td>
<td>(.52)</td>
<td>(.45)</td>
<td>(1.15)</td>
<td>(.96)</td>
<td></td>
</tr>
<tr>
<td>Low Fantasy n = 9</td>
<td>2.67</td>
<td>2.60</td>
<td>7.67</td>
<td>1.80</td>
<td>4 5</td>
</tr>
<tr>
<td></td>
<td>(.50)</td>
<td>(.29)</td>
<td>(2.98)</td>
<td>(1.21)</td>
<td></td>
</tr>
<tr>
<td>Overall n = 18</td>
<td>2.71</td>
<td>2.66</td>
<td>7.83</td>
<td>1.99</td>
<td>- -</td>
</tr>
<tr>
<td></td>
<td>(.50)</td>
<td>(.37)</td>
<td>(2.33)</td>
<td>(1.15)</td>
<td></td>
</tr>
</tbody>
</table>
4. Pre-experimental estimates of conceptual tempo were obtained from the Early Childhood-Matching Familiar Figures Test (EC-MFF) from the Cincinnati Autonomy Test Battery (CATB, Banta, 1970).

5. Pre-experimental estimates of capacity to inhibit motor behavior were obtained from Draw-A-Line-Slowly (D-A-L-S) (CATB, Banta, 1970).

6. Subject preferences for rewards that were either functionally structured or functionally unstructured were assessed using an experimental procedure described in the Instruments section of the previous chapter.

**Age**

The mean age for all subjects was 4 years, 9 months. On the average, subjects in Group A were two months younger than subjects in Group B. A one-month difference favored subjects classified "high" on pre-treatment fantasy level.

**Verbal Ability**

To control for possible confounding of verbal ability with other obtained scores and ratings (particularly with pre-treatment fantasy levels), the vocabulary subscale of the Wechsler Preschool and Primary Scale of Intelligence (WPPSI) Wechsler, 1967) was administered to all subjects at pretesting. Results of a two-way (treatment x fantasy level) Anova ensured the equivalence of the two treatment groups on that measure ($F = .34; df = 1, 14; p = .57$) and showed no significant relationship between pre-treatment fantasy levels and vocabulary
scale scores ($F = .59$; $df = 1, 14$; $p = .46$). A Pearson Product Moment coefficient ($r = .05$, $N = 18$) between WPPSI Vocabulary Subscale Scores and the combined scores used to classify subjects on pre-treatment fantasy level also revealed no significant correlation between fantasy level and verbal ability. Separate Pearson Product Moment coefficients of correlation were also computed between WPPSI vocabulary scores and the remaining pre-test scores. None of these achieved significance. These correlations are summarized in Table 3.

Table 3

<table>
<thead>
<tr>
<th>Pre-Experimental Fantasy Level</th>
<th>.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Imaginativeness Ratings</td>
<td>-.28</td>
</tr>
<tr>
<td>Pre-Concentration Ratings</td>
<td>-.09</td>
</tr>
<tr>
<td>Pre-Affect Ratings</td>
<td>.26</td>
</tr>
<tr>
<td>Pre-EC-MFF</td>
<td>.10</td>
</tr>
<tr>
<td>Pre-D-A-L-S</td>
<td>-.03</td>
</tr>
</tbody>
</table>

* None of these coefficients achieved significance.
Pre-Treatment Fantasy Levels

A median split on an average of two scores (IPP Interview score and pre-observation imaginativeness ratings using Freyberg's (1973) five-point imaginativeness scale was used to determine classification of subjects into "high" or "low" pre-treatment fantasy levels. A one-way Anova revealed that, by itself, the IPP Interview failed to discriminate at a significant level between "highs" and "lows". However, imaginativeness ratings of pre-treatment observation protocols did discriminate between "highs and "lows" (F = 10.18; df = 1, 14; p < .007). A test conducted on the combined score index revealed no significant difference between groups A and B on pre-treatment fantasy level. These data therefore disclosed that "highs" and "lows" were in fact different but that treatment groups A and B did not differ significantly on fantasy level prior to treatment.

Correction for Continuity

A correction procedure described by Cronbach & Snow (1977) and Gaito (1965) was applied to the results of all the Anovas conducted on pre-, post-, and final data. This procedure is designed to correct for underestimations of the effects of blocking on continuous variables (e.g., fantasy level). Estimates of the relative contributions of sources of variance (σ^2) were also computed for all pre-, post-, and final-test Anova results (Cronbach and Snow, 1977). Both the corrected F values and the estimates of variance are reported
in the Anova summary tables.

Pre-Treatment Equivalence of Groups on Imaginativeness, Concentration, and Affect Ratings

Three separate 2 x 2 unweighted means Anovas (treatment group x fantasy level x time) were conducted on imaginativeness, concentration, and affect pre-observation ratings. (See Appendix C for Anova Summary Tables). As reported earlier, an appropriately significant imaginativeness effect \((F = 10.18; df = 1, 14; p < .007)\) was obtained.

No significant effects were found for affect ratings, ensuring that both treatment and fantasy level groups were equivalent on affect ratings prior to treatment.

When the Cronbach and Snow (1977) correction procedure was applied to concentration ratings, however, the treatment x fantasy level interaction did achieve significance \((F = 6.69; df = 1, 14; p < .05)\). An examination of cell means revealed that highs in treatment group A and lows in treatment group B had higher mean ratings for concentration than did highs in Group B and lows in Group B. However, when the Tukey post hoc comparisons procedure was applied, none of the mean differences met the criterion for significance at the .05 level.

Pre-Treatment Equivalence of Groups on Reflection and Motor Inhibition

Separate treatment x fantasy level Anovas (See Appendix C for Summary Tables) were also conducted on EC-MFF and D-A-L-S scores. No significant pre-experimental differences were
revealed on either measure. A Pearson Product Moment Coefficient of correlation between scores on EC-MFF and DALS (r = .09) was not significant.

Pre-Treatment Correlations Between Imaginativeness, Concentration and Affect Ratings

Pearson product moment coefficients of correlation were computed to determine the strength of the relationships between imaginativeness, concentration and affect ratings prior to treatment (See Table 16, Appendix C). The correlation between imaginativeness and affect (.56) and that between concentration and affect (.55) were both significant at p < .02. The correlation of .41 obtained between imaginativeness and concentration ratings only approached significance (p = .09). These correlations are considerably smaller than those obtained by Freyberg for pre-experimental ratings. Two factors might account for the differences: (1) the N in the present study was considerably smaller; and (2) concentration and affect ratings in the present study were considerably higher than those reported by Freyberg.

Pre-Treatment Equivalence of Groups on Rewards Selection

A Fisher Exact Probability Test was applied to the reward selection frequency data. It revealed no significant difference between groups A and B with regard to preferences for functionally structured or unstructured rewards. A second Fisher Exact Probabilities Test was conducted on fantasy level x reward selection data. That test also proved nonsignificant.
Summary

Treatment groups were found to be acceptably equivalent with regard to age, verbal ability, pre-treatment fantasy levels, affect ratings, impulsivity/reflection and motor inhibition. An appropriate significant difference was observed between fantasy levels for imaginativeness ratings. A significant treatment group by fantasy level interaction was obtained for concentration ratings. Post hoc tests did not support that finding.

Inter-Observer Agreement

Two procedures were employed to estimate inter-observer similarity: (1) overall subjective estimates of similarity independently provided by two Ph.D.'s in psychology; and (2) a percentage of overlap computed on observations simultaneously recorded by the four observers. A description of both procedures can be found in Appendix A.

Inter-observer agreement data were gathered twice—once prior to the pre-testing phase, and again approximately midway through the project. The data for these agreement indices were obtained from three 5-minute play samples. The preschool-aged children observed for this purpose were not participants in the project.

On a 5-point scale, the two judges achieved the following average ratings of overall similarity: 4.15 and 4.75 ("quite similar") for first and second rating occasions respectively. Average percentages of overlap obtained by the two judges across the four observers were 83% and 81% respectively for
The comparisons conducted in January and in early April. As indicated earlier in Chapter III, these percentages reflected an acceptably high degree of agreement among observers.

**Inter-rater Agreement**

The three raters independently rated twenty pre-test observation protocols. Separate Pearson product moment coefficients of correlation were computed for imaginativeness, concentration and affect ratings. Those computations yielded the following indices of inter-rater agreement: .88 for imaginativeness, .92 for concentration, and .73 for affect ratings. Overall inter-rater agreement on these data was .86. These indices were slightly lower than anticipated (particularly that for affect ratings). It therefore seemed advisable that each of the 324 protocols be rated independently by two of the raters and that an average rating be computed in instances for which there was a discrepancy between the ratings given by the two raters.

**Data Loss**

Data were complete for all but one of the subjects. Follow-up data were unavailable because this subject was withdrawn from school for reasons unrelated to her participation in the project.

**Posttest Results (Experiment #1)**

The reader is reminded of the following design conditions: (1) Two separate experiments were conducted sequentially. Groups were therefore not treated co-terminously.
(2) Group B served as a delayed-treatment control group during the six-week treatment phase for Group A (Experiment #1);
(3) Post-testing occurred at the conclusion of the six-week treatment period for Group A; (4) A final testing phase was conducted after the six-week treatment for Group B (Experiment # 2) was concluded; (5) The final testing phase thus served as a post-treatment test for Group B but as a six-week follow-up for Group A.

Sources of Data: Post-Testing

1. Ratings of imaginativeness, concentration, and affect made of the natural observations
2. Estimates of conceptual tempo obtained from EC-MFF
3. Estimates of capacity to inhibit motor behavior from D-A-L-S.
4. Subject preferences for functionally structured or functionally unstructured rewards obtained from the experimental procedure.

Tables 21 to 29 (Appendix C) summarize separate treatment-by-blocks anovas (Kennedy, 1974) in which two pre-experimental fantasy levels formed the blocking variable. Significant effects were further analyzed on a post hoc basis by the Tukey method of multiple comparisons. Estimates of total variance accounted for (Gaito, 1965) are also reported.

Hypothesis 1a Subjects exposed to Treatment A (full procedure as described by Wolfgang (1977) will show greater increases in imaginativeness, concentration and affect ratings at post-test than a no-treatment control group (Group B).
Imaginativeness. The treatment x fantasy x time (pre-post) anova for post imaginativeness ratings revealed a significant fantasy x time interaction ($F = 6.53; \ df = 1, 28; \ p < .05$) and significant main effects for fantasy level ($F = 10.19; \ df = 1, 28; \ p < .01$) and for time ($F = 11.41; \ df = 1, 28; \ p < .005$). Treatment x fantasy and treatment x time interactions approached but did not achieve significance (See Figure 4).

As summarized in Table 4, the post hoc comparisons indicate the following: the post imaginativeness ratings for lows in treatment Group A increased significantly ($p < .05$) from pre to post testing. None of the other mean comparisons achieved significance. Error variance accounted for approximately 38% of the total sample variance as compared to 12% for fantasy levels (blocks) and 22% for time, suggesting that fantasy level was more important than treatment in determining post-imaginitiveness ratings.

Concentration. The treatment x fantasy x time (pre-post) anova for post concentration ratings revealed a significant treatment x fantasy level effect ($F = 14.80; \ df = 1, 28; \ p < .007$) and a main effect for time ($F = 5.41; \ df = 1, 28; \ p < .04$) (See Figure 5).

Post hoc comparisons did not reveal any significant mean differences. An examination of cell means (Table 5) shows an increase in concentration ratings for lows in treatment Group A.
Figure 4 The Relationship Between Imaginativeness Ratings and Treatments for High and Low Fantasy Level Subjects
Table 4

MEANS AND STANDARD DEVIATIONS FOR 
PRE- POST- AND FINAL TEST IMAGINATIVENESS RATINGS*

<table>
<thead>
<tr>
<th>IMAGINATIVENESS RATINGS</th>
<th>Pre</th>
<th>Post</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 18</td>
<td>N = 18</td>
<td>N = 17</td>
</tr>
<tr>
<td>Group A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highs</td>
<td>1.94 (.28)</td>
<td>2.33 (.43)</td>
<td>2.14 (.31)</td>
</tr>
<tr>
<td>Lows</td>
<td>1.25 (.24)</td>
<td>2.04 (.36)</td>
<td>2.28 (.42)</td>
</tr>
<tr>
<td>Overall</td>
<td>1.64 (.45)</td>
<td>2.20 (.31)</td>
<td>2.19 (.36)</td>
</tr>
<tr>
<td>Group B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highs</td>
<td>1.96 (.23)</td>
<td>1.85 (.33)</td>
<td>2.45 (.42)</td>
</tr>
<tr>
<td>Lows</td>
<td>1.55 (.53)</td>
<td>2.03 (.26)</td>
<td>1.67 (.11)</td>
</tr>
<tr>
<td>Overall</td>
<td>1.74 (.46)</td>
<td>1.95 (.43)</td>
<td>2.02 (.49)</td>
</tr>
</tbody>
</table>

Means connected by brackets were significantly different beyond the .05 level by the Tukey method (Kennedy, 1974).

The significant treatment x fantasy level interaction accounted for 39% and the treatment x fantasy x time interaction for 12% of the total sample variance. Error variance also accounted for approximately 39%; the remaining 9% was contributed by the time source. This suggests, as with post-imaginativeness results, that fantasy level was more important than treatment in determining post concentration ratings.
Figure 5  The Relationship Between Concentration Ratings and Treatments for High and Low Fantasy Level Subjects
### Table 5

MEANS AND STANDARD DEVIATIONS
FOR PRE, POST, AND FINAL TEST CONCENTRATION RATINGS

<table>
<thead>
<tr>
<th>Concentration Ratings</th>
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<th>Final</th>
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<tr>
<td></td>
<td>N = 18</td>
<td>N = 18</td>
<td>N = 17</td>
</tr>
<tr>
<td><strong>Group A</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highs</td>
<td>2.95 (.58)</td>
<td>3.09 (.17)</td>
<td>3.10 (.17)</td>
</tr>
<tr>
<td>Lows</td>
<td>2.44 (.21)</td>
<td>2.90 (.13)</td>
<td>3.28 (.20)</td>
</tr>
<tr>
<td>Overall</td>
<td>2.72 (.51)</td>
<td>3.00 (.22)</td>
<td>3.17 (.19)</td>
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<tr>
<td><strong>Group B</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Highs</td>
<td>2.45 (.29)</td>
<td>2.73 (.30)</td>
<td>2.88 (.19)</td>
</tr>
<tr>
<td>Lows</td>
<td>2.86 (.61)</td>
<td>3.03 (.28)</td>
<td>2.90 (.43)</td>
</tr>
<tr>
<td>Overall</td>
<td>2.68 (.48)</td>
<td>2.89 (.35)</td>
<td>2.89 (.35)</td>
</tr>
<tr>
<td>Highs</td>
<td>2.73 (.52)</td>
<td>2.93 (.27)</td>
<td>3.00 (.21)</td>
</tr>
<tr>
<td>Lows</td>
<td>2.67 (.50)</td>
<td>2.97 (.21)</td>
<td>3.04 (.41)</td>
</tr>
<tr>
<td>Overall</td>
<td>2.71 (.50)</td>
<td>2.95 (.24)</td>
<td>3.02 (.32)</td>
</tr>
</tbody>
</table>
Affect. No significant effects were obtained for the treatment x fantasy level x time anova for post affect ratings. The summary table for post affect (Table 24, Appendix C) also indicates that 95% of the total sample variance was accounted for by error variance and that only approximately 5% was due to treatment variance.

In summary, results showed that fantasy level effects were more important than treatment effects with regard to imaginativeness and concentration ratings. Lows in Group A increased significantly with regard to imaginativeness and concentration ratings. An examination of Figures indicates, however, that lows in Control Group B also made increases in imaginativeness and concentration. A simple maturation effect or regression effect for lows and/or a contamination of lows in Group B by Group A lows is suggested.
Figure 6 The Relationship Between Affect Ratings and Treatments for High and Low Fantasy Level Subjects
Table 6
MEANS AND STANDARD DEVIATIONS
FOR PRE, POST, AND FINAL TEST AFFECT RATINGS

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
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<tbody>
<tr>
<td>N = 18</td>
<td>N = 18</td>
<td>N = 17</td>
<td></td>
</tr>
</tbody>
</table>

**AFFECT RATINGS**

**Group A**

- **Highs**
  - 2.84 (.34)
  - 2.89 (.43)
  - 2.87 (.38)

- **Lows**
  - 2.56 (.21)
  - 2.77 (.19)
  - 2.78 (.07)

- **Overall**
  - 2.71 (.31)
  - 2.84 (.34)
  - 2.83 (.31)

**Group B**

- **Highs**
  - 2.58 (.58)
  - 2.65 (.38)
  - 3.03 (.24)

- **Lows**
  - 2.64 (.37)
  - 2.52 (.40)
  - 2.77 (.07)

- **Overall**
  - 2.61 (.44)
  - 2.57 (.42)
  - 2.88 (.22)

- **Highs**
  - 2.72 (.45)
  - 2.77 (.45)
  - 2.94 (.33)

- **Lows**
  - 2.60 (.29)
  - 2.63 (.34)
  - 2.77 (.27)

- **Overall**
  - 2.66 (.37)
  - 2.71 (.39)
  - 2.86 (.26)
Hypothesis 1b: Subjects exposed to Treatment A (full procedure as described by Wolfgang, 1977) will show greater reflection (higher EC-MFF scores) and more motor inhibition (lower D-A-L-S scores) than a no-treatment control group (B).

Reflection. The treatment x fantasy level x time anova for scores on post EC-MFF failed to reveal any significant effects although the 3-way interaction did approach significance. An examination of cell means (Table 7) reveals, however, that scores for highs in Group A increased rather substantially while scores for highs in the control group (B) decreased by an approximately comparable amount. This effect is graphically represented in Figure 7. Error variance contributed approximately 85% of the total sample variance and the remaining 15% was accounted for by the treatment x fantasy level x time interaction.

Motor Inhibition. The treatment x fantasy level x time (pre-post) anova for post D-A-L-S scores revealed no significant effects. Although scores for Group A lows decreased somewhat (reflecting greater motor inhibition), that difference did not approach significance. The data, including that on contributions to total variance by the sources, converge to indicate no change for treatment Group A and no significant differences between groups A and B.

Summary. Hypothesis 1b was not supported by the data. In one instance (a non-significant increase for Group A highs for reflection), there was an indication that fantasy level again might be a more potent effect than treatment or that the two fantasy levels might be differentially affected by
Figure 7  The Relationship Between EC-MFF Scores and Treatments for High and Low Fantasy Level Subjects
**Table 7**

MEANS AND STANDARD DEVIATIONS FOR
EARLY CHILDHOOD-MATCHING FAMILIAR FIGURES

<table>
<thead>
<tr>
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<tr>
<td><strong>EC - MFF</strong></td>
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<tr>
<td><strong>Group A</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Highs</td>
<td>7.60 (1.14)</td>
<td>9.00 (1.41)</td>
<td>8.80 (1.17)</td>
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<tr>
<td>Lows</td>
<td>8.00 (3.37)</td>
<td>7.75 (1.79)</td>
<td>7.33 (1.70)</td>
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<td>Overall</td>
<td>7.78 (2.10)</td>
<td>8.44 (1.71)</td>
<td>8.25 (1.56)</td>
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<td><strong>Group B</strong></td>
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<tr>
<td>Highs</td>
<td>8.50 (1.29)</td>
<td>6.75 (1.48)</td>
<td>10.00 ( .71)</td>
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<tr>
<td>Lows</td>
<td>7.40 (3.37)</td>
<td>8.00 (2.19)</td>
<td>7.60 (1.02)</td>
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<td>Overall</td>
<td>7.89 (2.43)</td>
<td>7.44 (2.01)</td>
<td>8.67 (1.49)</td>
</tr>
<tr>
<td>Highs</td>
<td>8.00 (1.15)</td>
<td>8.00 (1.83)</td>
<td>9.33 (1.16)</td>
</tr>
<tr>
<td>Lows</td>
<td>7.67 (2.98)</td>
<td>7.89 (2.02)</td>
<td>7.50 (1.32)</td>
</tr>
<tr>
<td>Overall</td>
<td>7.83 (2.33)</td>
<td>7.94 (1.95)</td>
<td>8.47 (1.54)</td>
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</table>

* Means were significantly different beyond the .01 level by the Tukey method (Kennedy, 1974).

**p < .05**
Figure 8 The Relationship Between D-A-I-S Scores and Treatments for High and Low Fantasy Level Subjects
Table 8

MEANS AND STANDARD DEVIATIONS FOR
PRE- POST- AND FINAL TEST SCORES ON
DRAW-A-LINE SLOWLY*

<table>
<thead>
<tr>
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<td></td>
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<tr>
<td>D-A-L-S</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highs</td>
<td>2.24 (.77)</td>
<td>1.76 (.87)</td>
<td>1.98 (.79)</td>
</tr>
<tr>
<td>Lows</td>
<td>1.63 (1.60)</td>
<td>.98 (.33)</td>
<td>2.71 (1.51)</td>
</tr>
<tr>
<td>Overall</td>
<td>1.97 (1.16)</td>
<td>1.41 (.78)</td>
<td>2.25 (1.17)</td>
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<tr>
<td>Group B</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Highs</td>
<td>2.11 (1.42)</td>
<td>1.82 (.46)</td>
<td>2.53 (1.63)</td>
</tr>
<tr>
<td>Lows</td>
<td>1.93 (1.17)</td>
<td>2.08 (1.33)</td>
<td>1.02 (.28)</td>
</tr>
<tr>
<td>Overall</td>
<td>2.01 (1.20)</td>
<td>1.96 (1.10)</td>
<td>1.69 (1.34)</td>
</tr>
<tr>
<td>High</td>
<td>2.18 (.96)</td>
<td>1.78 (.72)</td>
<td>2.22 (1.27)</td>
</tr>
<tr>
<td>Low</td>
<td>1.80 (1.21)</td>
<td>1.59 (1.15)</td>
<td>1.66 (1.25)</td>
</tr>
<tr>
<td>Overall</td>
<td>1.99 (1.15)</td>
<td>1.69 (.85)</td>
<td>1.95 (1.28)</td>
</tr>
</tbody>
</table>

*Means connected by brackets were significantly different beyond the .05 level by the Tukey Method (Kennedy, 1974).
Hypothesis 1C: Subjects exposed to the full play facilitation procedure as described by Wolfgang, 1977, will show a different frequency pattern for selection of functionally structured and unstructured rewards. The treated group will select more unstructured rewards than the control group (B).

A Fisher Exact Probabilities Test (See Table 14) revealed no significant differences between the frequency patterns observed for reward selection by subjects in Group A and the control group.

Final Test Results (Experiment #2)

Sources of Data: Final Testing

1. Ratings of imaginativeness, concentration, and affect made of the natural observations
2. Estimates of conceptual tempo obtained from EC-MFF
3. Estimates of capacity to inhibit motor behavior from D-A-L-S.
4. Subject preferences for functionally structured or functionally unstructured rewards obtained from the experimental procedure.

Hypothesis 2a: The full play facilitation procedure (Treatment A) will be as effective for increasing ratings of imaginativeness, concentration and affect ratings as a modified version (Treatment B) of that procedure which minimizes developmental "reactivation" aspects.

Imaginativeness. A three-way (treatment x fantasy level x time) anova for final imaginativeness ratings revealed a significant treatment x fantasy level x time interaction \( (F = 13.06; df = 1, 27; p < .01) \) as well as a significant treatment x fantasy level effect \( (F = 1.55; df = 1, 27; \)
p < .024) and significant main effects for fantasy (F = 28.57; df = 1, 27; p < .001) and for time (post to final test) (F = 20.53; df = 1, 27; p < .001). As indicated in Table 4 post hoc comparisons revealed a significant (p < .05) increase in imaginativeness ratings for Treatment Group B highs and a significant difference at final testing between highs and lows in Group B. This difference was predictable, to some extent, in that imaginativeness ratings formed one component of the combined score fantasy level index. The means are graphically represented in Figure 4. Estimates of total amount of sample variance accounted for by each source indicate 20% for fantasy level 22% for time, 34% for the three-way interaction, and only approximately 20% for within groups variance.

**Summary.** Hypothesis 2a, then, was not upheld by the data. No significant differences emerged between the two treatment groups after both had received treatment. Once again, as at post testing, fantasy level was more important than treatment in effecting changes in imaginativeness ratings.

**Concentration.** The three-way treatment x fantasy level x time (post - final - testing) anova for concentration ratings revealed a significant three-way interaction (F = 5.479; df = 1, 27; p < .05) and a significant main effect for time (F = 7.15; df = 1, 27; p < .05). Post hoc
comparisons, however, were not significant. An examination of the cell means (Table 5) and of the graphs in Figure 5 indicates that the greatest mean increases in concentration ratings came from lows in Group A. Although it did not achieve significance, that observed mean increase is particularly interesting since, for Group A, final testing was conducted six weeks after conclusion of the treatment and thus served as a six-week follow-up test.

Estimates indicate that the variance associated with the three-way interaction source accounted for 31% of the total sample variance, treatment x fantasy level for approximately 5% and time (post - final - testing) for approximately 17% as compared to 47% for error variance.

**Affect.** The treatment x fantasy level x time anova for affect ratings at final testing revealed only a significant main effect for time \( (F = 6.19; \ df = 1, 27; \ p < .05) \). None of the post hoc comparisons achieved significance, however. An examination of the cell means in Table 6 and of the graphs in Figure 6 indicate that mean increases occurred for both high and low fantasy level subjects in Group B while both highs and lows in Group A remained essentially the same at final as at post testing.
Estimates of the percent of total sample variance contributed by individual sources indicates that 14\% was accounted for by time (post - final - testing), 3\% by fantasy level, 5\% by the treatment x fantasy level x time interaction, and 78\% by the within-subjects source.

In summary, hypothesis 2a was not upheld by the data although some non-significant effects due to fantasy level did emerge.

Hypothesis 2b: The full play facilitation procedure (Treatment A) will be as effective for increasing scores on EC-MFF and for decreasing scores on D-A-L-S as a modified version of that procedure which minimizes developmental "reactivation" aspects (Treatment B).

Results:

Reflection. A two-way (treatment x fantasy level) anova for EC-MFF scores at final testing revealed a significant fantasy level effect ($F = 11.54, df = 1, 16; p < .01$), but no effect for treatments. Post hoc comparisons revealed a significant mean increase from post to final testing ($p < .01$) for highs in Group B (Table 7). The post hoc comparisons also indicated a significant difference at final testing between high and low fantasy level subjects from both treatment groups combined, with highs being significantly ($p < .05$) more reflective than lows (See Figure 7).
As reported in the anova summary table, variance due to fantasy level accounted for 45% and error approximately 55% of the total sample variance.

Motor Inhibition. The two-way anova for final-test D-A-L-S scores revealed a significant interaction between treatment and fantasy level ($F = 4.84; \text{df} = 1, 16; p < .05$). Main effects for treatment and fantasy level did not achieve significance. Post hoc comparisons revealed that the largest mean difference occurred for lows in Group A ($p < .05$). Contrary to predictions, their mean motor inhibition score increased (increase = less motor inhibition) to a level higher than pre-test means. This suggests a deterioration effect for Group A lows. Although significance was not achieved in the post hoc comparisons, lows in Group B, in contrast, showed decreased motor inhibition scores (decrease = more motor inhibition) as the cell means in Table 8 and Figure 8 indicate. The post hoc tests also revealed that at final testing, Group B highs scored significantly higher ($p < .05$) (less motor inhibition) than Group B lows. Highs in both A and B tended to increase their scores (become less motor inhibited) at final testing. Those increases did not achieve significance. The significant treatment x fantasy level interaction, then, was due primarily to the differential effects of Treatments A and B on lows.

Estimates indicate that approximately 56% of total sample variance was accounted for by error variance, while the
remaining 44% was contributed by the treatment x fantasy level interaction source.

Summary. The data once again indicated that fantasy level was more potent than treatment in determining final test effects. Highs in Group B did become significantly more reflective subsequent to treatment. Contrary to prediction, highs in both treatment groups and lows in Group A, showed less motor inhibition by final testing. Group B lows, however, did show greater motor inhibition subsequent to treatment. This suggests differential treatment effects for highs and lows on reflection and motor inhibition.

Hypothesis 2c: Subjects exposed to the full treatment (A) will show a different frequency pattern for selection of functionally structured and unstructured rewards. Subjects in Group A will select more unstructured rewards than subjects in Group B.

Results. The Fisher Exact Probabilities Test conducted on reward selection frequency patterns at final testing for Groups A and B was not significant. The prediction that Group A subjects would select unstructured rewards as or more frequently than Group B subjects was not supported by the data. An examination of the cell frequencies, however, indicates a clear trend for Group B subjects to depart from expected frequencies. Although Group A subjects were equally divided in preference for structured and unstructured rewards, eight out of the nine subjects in Group B selected functionally structured rewards.
Hypothesis 3: Subjects classified high on pre-treatment fantasy level will be more responsive to both treatment modes than subjects classified low on that variable. This greater responsiveness of highs will be reflected in (a) greater increases in imaginativeness, concentration and affect ratings for highs; (b) greater increases in reflection (as estimated by increased scores on EC-MFF) and greater increases in motor inhibition (as estimated by decreased motor inhibition scores on D-A-L-S for highs; and (c) more frequent selection of unstructured rewards for highs.

Imaginativeness. As reported earlier, significant main effects were obtained for fantasy level (F = 10.19; df = 1, 28; p < .01) and for time (F = 11.48; df = 1, 28; p < .005) at post-testing. Contrary to predictions, post hoc tests revealed that the significant mean differences contributing to those significant F tests were for low fantasy level subjects in Group A (p < .05). Mean increases for highs from pre-post testing did not achieve significance. An interesting effect was observed in Group B, however, which confounds the finding for Group A. Lows in the control group also increased on imaginativeness ratings from pre-posttesting (See Figure 4). Although that increase was not significant, it does suggest a possible contamination effect between the two treatment groups and/or a simple maturation effect for lows in both groups. A regression effect for lows may also be indicated.

At final testing, the anova revealed a significant treatment x fantasy level x time interaction (F = 13.06; df = 1, 27; p < .01). Post hoc mean comparisons revealed significant differences between highs and lows in treatment Group B only. Highs in Group B increased significantly (p < .05) subsequent to receiving treatment. Ratings for lows in that group
decreased, however, although the decrease did not achieve significance. Post hoc tests also revealed that highs and lows in Group B were significantly different from each other at final testing \((p < .05)\). Lows in Group A continued to increase slightly, while highs in that group decreased slightly. (See Table of Means 4 and Figure 4).

A differential treatment effect seemed to operate for high and low fantasy level subjects. Lows in Group A showed a significant positive increase in response to that treatment but Group B lows showed a negative (non-significant) decrease in response to the alternate treatment mode. Highs in Group A also responded with increased imaginativeness ratings, but highs in Group B did not change meaningfully.

Concentration. The significant treatment x fantasy interaction \((F=14.98; df=1, 28; p < .007)\) obtained from posttest ANOVA for concentration ratings is graphed in Figure 5. Although none of the post hoc comparisons achieved significance, an examination of the pre-post means in Table 5 reveals that the greatest mean increase was for lows in treatment Group A. Highs in Group A did not increase meaningfully.

The significant treatment x fantasy level x time interaction \((F=5.48; df=1, 27; p < .05)\) obtained from the final test ANOVA is graphed in Figure 5. None of the post hoc comparisons achieved significance. An examination of Figure 5 and Table 5 of concentration cell means indicates that lows in Group A continued to show gains on concentration ratings while lows in
in Group B showed a very slight decrease in concentration ratings immediately subsequent to receiving treatment. Highs in either treatment group did not reflect any meaningful increases at final testing. As with imaginativeness ratings, lows seemed to be differentially affected by the two treatment modes.

**Affect.** The only significant effect obtained from the two three-way anovas at post and final testing was a significant main effect for time at final testing (F=6.19; df=1, 27; p < .05). Post hoc tests did not reveal any significant mean differences. Figure 6 reveals, however, that the greatest mean increase at final testing came from treatment Group B. Both highs and lows in that group showed non-significant increases on affect ratings immediately subsequent to treatment.

**Reflection.** None of the effects of the post-test anova for reflection (EC-MFF) achieved significance. The treatment x fantasy level x time interaction did approach significance. The graphs in Figure 7 depict the nature of that interaction.

At final testing, a significant fantasy level effect (F=11.54; df=1, 16; p < .01) was observed. The highs in both treatment groups showed higher means (more reflective) immediately subsequent to treatment, whereas the lows in both groups showed mean decreases (more impulsive).

**Summary.** Highs in both treatment groups did become more reflective after treatment, although only increases in Group A highs at posttesting achieved significance.

**Motor Inhibition.** No significant differences were
obtained from the post-test anova on D-A-L-S scores. At final testing, the anova revealed a significant treatment x fantasy interaction ($F=4.87; \text{df}=1, 16; p<.05$). A significant ($p<.05$) post hoc mean difference was observed between highs and lows in Group B at final testing, with highs showing a significantly higher mean (less motor inhibition) than lows. This finding was contrary to prediction. An interesting significant ($p<.05$) mean difference was also observed for lows in Group A with mean scores increasing from post to final testing (increase=less motor inhibition). This mean increase exceeded the pre-test level for highs and lows in both groups and suggests a possible deterioration of the gains reflected in the pre-post means. Lows in Group B, however, became more motor inhibited subsequent to treatment. That mean decrease did not achieve significance (Figure 8). There was a tendency, then, for highs and lows to respond differently to treatment B.

**Rewards.** Two Fisher Exact Probabilities Tests (one each at post and at final testing) were conducted for the two fantasy levels. The results did not achieve significance. Highs did not reflect any greater preference for unstructured than structured rewards.

**Hypothesis 4:** There will be a positive association between reflection and motor inhibition both prior to and subsequent to play training for both groups.

A Pearson Product Moment correlation conducted between pre-test scores on EC-MFF and D-A-L-S yielded a non-significant coefficient of .09. Separate correlations were computed
between the scores on these two measures for Groups A and B at both post and final testing. At posttesting, the coefficients obtained for Groups A and B were .20 and -.38 respectively. Neither of these was significant. At final testing, non-significant coefficients of -.25 for Group A and .43 for Group B were obtained.

These non-significant coefficients are not consistent with the significant coefficient (.37) obtained by Banta, 1970.

**Other Results:**

Unlike the high intercorrelations obtained by Freyberg (1973) for imaginativeness, concentration and affect ratings at both pre and posttesting, the Pearson Product Moment correlations obtained in this study were quite modest. Only the following were significant: pre-imaginativeness and pre-affect \((r = .56, p < .01)\) and pre-concentration and pre-affect \((r = .55, p < .02)\).

The Pearson Product Moment correlation computed between fantasy level and post D-A-L-S scores for Group A yielded a coefficient of .65 \((p < .06)\). An examination of Table 8 supports this. Highs showed higher D-A-L-S scores than lows in that group. For Group A, high fantasy level was thus associated with less motor inhibition while low fantasy level was associated with greater motor inhibition.
Verbal Behaviors During Training Sessions

A post hoc analysis was conducted of the audio-taped verbal behaviors of both facilitator and subjects during individual training sessions. The following prompted the analysis:

(1) Observational data were gathered in the natural play setting but not in the experimental training setting. Given that no analogue research had yet been conducted to document the effectiveness of the training in the experimental setting, it was necessary to determine if predicted subject improvements had begun to manifest themselves during the latter part of (individual) training sessions.

(2) This verbal analysis served as a means of determining whether the treatment programs implemented by the facilitator were consistent with the principles and goals outlined in the facilitator's manual. Specifically, it was conducted to determine if the following occurred:
   (a) facilitator talk reflected increases in make-believe talk and decreases in realistic talk over the course of both treatments.
   (b) the overall ratio of facilitator to subject talk decreased over the course of treatment.

(3) This verbal analysis was designed to determine whether treatments A (Experiment #1) and B (Experiment #2) were actually different in practice.
(a) whether there were fewer instances of facilitator and subject talk related to sensory qualities of fluid play materials in treatment B than in treatment A.

(b) whether there was more task-irrelevant facilitator and subject talk (tangential talk) in treatment B than in treatment A.

Procedures:

Audio tapes from treatment groups A and B were selected—four "early" (session #1 or #2) and from four "late" (session #5 or #6) individual training sessions. Facilitator and subject talk from the same sessions were transcribed. An adaptation of the Flanders System for Interaction Analysis (Flanders, 1970) (See page 136 for a summary and Appendix D for a full description) was developed to analyze facilitator verbal behaviors. Essentially, the adaptation consisted of a subscript applied to each of the first seven Flanders categories. Verbal events coded 1-7 were subscripted (a) for talk that was make-believe or that was intended to elicit or reinforce subject make-believe talk; (b) for talk that was itself realistic or intended to elicit or reinforce realistic talk; and (c) for talk that modelled, elicited or reinforced sensory exploration of fluid play materials.

A separate system related to the major dependent variables (imaginativeness, concentration and affect) and to the two treatment forms was developed to analyze subject verbal
behaviors (See page 137 for a summary and Appendix D for a full description).

It was assumed that frequencies for the full early and late sessions would be distorted by differences in play activities planned for early and late training sessions. Therefore, separate analyses were conducted for the middle seven minutes of dramatic play segments of the same sessions used in the full-session analyses.

Clusters of Verbal Behavior. To facilitate the analyses and to render them more meaningful, the following clusters of verbal behaviors were identified:

Facilitator Talk
a. Make-believe talk— the sum of categories 1a, 2a, 3a, 4a, 5a, 6a, and 7a.
b. Realistic Talk— the sum of categories 1b, 2b, 3b, 4b, 5b, 6b, 7b, and 9.
c. Sensory talk— the sum of categories 1c, 2c, 3c, 4c, 5c, 6c, and 7c.
d. Uncategorizable talk— category 8
e. Silence— category 10

Subject Talk
a. Make-believe talk— sum of categories 8, 9, and 10.
b. Realistic talk— sum of categories 1, 2, 3, 5, and 6
c. Sensory talk— sum of categories 4a and 4b
d. Uncategorizable talk— category 7
Summary of Categories of Facilitator Verbal Behavior

1. Accepts feeling:
   a. Make-believe feeling
   b. realistic ("non-make-believe") feeling
   c. feelings related to sensory experiences with fluid materials.

2. Praises or encourages:
   a. make-believe behavior
   b. realistic ("non-make-believe") behavior
   c. behavior indicating exploration of sensory qualities of fluid materials.

3. Accepts or uses ideas of student:
   a. make-believe ideas
   b. realistic ideas
   c. ideas related to sensory experiences with fluid materials.

4. Asks questions:
   a. having make-believe content
   b. having realistic content
   c. referring to experiences with sensory qualities of fluid materials.

5. Lecturing:
   a. gives/models make-believe information
   b. gives realistic information
   c. gives information regarding sensory aspects of fluid media.

6. Giving directions:
   a. requiring subject to respond with make-believe behavior
   b. requiring subject to respond with realistic behavior
   c. requiring subject to explore sensory characteristics of fluid materials.

7. Criticizing or justifying authority:
   a. the way subject enacts make-believe
   b. the way subject handles realistic aspects of training session
   c. the way subject handles sensory experiences with fluid materials.

8. Uncategorizable talk.


10. Silence.
Summary of Categories of Subject Verbal Behavior

1. Agrees/complies with facilitator.
2. Disagrees with/denies facilitator requests.
3. Asks for/gives realistic information.
4. Expresses reactions to sensory experiences with fluid materials:
   a. positive reactions
   b. negative reactions.
5. Expresses enjoyment.
6. Tangential talk.
7. Uncategorizable talk.
8. Construction.
10. Make-believe talk:
    a. assigns roles
    b. establishes a make-believe setting
    c. assumes make-believe voices
    d. simulates sounds
    e. uses make-believe (non-conventional) toys or props
    f. uses imaginary toys/props.
Sign System. Because of the difficulties associated with identifying units of verbal behavior ("event), the category systems were converted into sign systems with a one-minute time unit. A one-minute unit was selected because it seemed short enough (as compared to the individual unit or event--See description in Appendix D) that the sign and category systems would record approximately the same frequencies (Rosenshine and Furst, 1973). A comparison of the percentages of talk yielded by individual verbal units (events) and by the one-minute unit in four randomly selected transcript samples was conducted to confirm this. The results of those comparisons revealed that percentages obtained for each category of facilitator and subject behavior were very similar using either system. The sign (one-minute) system tended to slightly underestimate verbal behaviors that occurred repeatedly (e.g., category 5a,--models/"gives" make-believe information--facilitator talk). Rosenshine and Furst have reported similar findings for sign systems.

The one-minute unit also seemed to be an appropriate unit in terms of the usual and expected duration of play activities. Activities were planned to vary from 5-15 minutes. A one-minute unit was determined to be sufficient for the brief activities and to be equally appropriate for activities of longer duration.

The validity and reliability of these two sign systems reliability of these two sign systems remain to be determined. The results obtained from the subject sign system were
generally consistent with the results from post-treatment imaginativeness rating. This provides tentative support for the concurrent validity of the subject system. Although both the facilitator and the subject sign systems appear to have face validity, more substantial evidence of criterion-related validity would have to be established to provide overall acceptance for the procedures (Isaac and Michael, 1971).

Predictions:
1. Ratios of facilitator to subject talk will be approximately equivalent for treatments A and B.
2. Late sessions will reflect increased subject talk and decreased facilitator talk.
3. For early and late sessions, there will be no differences between treatment groups A and B with regard to proportion of make-believe facilitator and subject talk and realistic facilitator and subject talk.
4. From early to late sessions, subject make-believe talk will increase and subject realistic talk will decrease.
5. In early sessions, treatment Group A will show a higher frequency of both facilitator and subject sensory talk than treatment group B.
6. There will be no difference between treatment groups A and B with regard to relative frequencies of uncategorizable facilitator and subject talk.
7. There will be no differences between treatment groups A and B with regard to relative frequencies of facilitator silence.
8. In early sessions, treatment group B will show a higher relative frequency of tangential facilitator talk than treatment Group A.

Results

Tables 9-13 summarize the results of the Chi Squares conducted on the verbal data obtained from early and late individual training sessions.

Ratios of Facilitator to Subject Talk

Separate Chi Square analyses of full sessions (25 minutes) and dramatic play segments of play training sessions (7 minutes) disclosed that proportions of facilitator and subject talk were not significantly different for treatment Groups A and B (prediction #1). These Chi Square values are summarized in Table 9. Proportions of Facilitator to subject talk converted to percentages are graphically represented in Figures 9 and 10.

The predicted decrease in facilitator talk (and the associated increase in subject talk) from early to late sessions occurred but did not achieve significance (prediction #2) for treatment Group A. By late sessions, the facilitator was not doing significantly less verbal intervention than in early sessions. This finding may reflect that the facilitator failed to allow subjects to initiate more of the play. It may also reflect that the facilitator viewed a continued high level of verbal intervention as necessary because subjects were not yet manifesting the target play skills.
### Table 9

**Chi Square Tests of Independence for Proportions of Facilitator and Subject Talk in Treatment Groups A and B**

<table>
<thead>
<tr>
<th></th>
<th>Full-Session Analysis</th>
<th>Dramatic Play Segments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Early Sessions (A versus B)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$X^2 = 1.24$, df = 1</td>
<td>$X^2 = .89$, df = 1</td>
<td></td>
</tr>
<tr>
<td><strong>Late Sessions (A versus B)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$X^2 = 5.29^*$, df = 1</td>
<td>$X^2 = 2.57$, df = 1</td>
<td></td>
</tr>
<tr>
<td><strong>Group A</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$X^2 = 2.61$, df = 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Group B</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$X^2 = 2.68$, df = 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Treatment Group A (Early versus Late)</strong></td>
<td>$X^2 = 2.99$, df = 1</td>
<td>$X^2 = .02$, df = 1</td>
</tr>
<tr>
<td><strong>Treatment Group B (Early versus Late)</strong></td>
<td>$X^2 = 24.15^{***}$, df = 1</td>
<td>$X^2 = 7.46^{**}$, df = 1</td>
</tr>
<tr>
<td><strong>Facilitator Talk</strong></td>
<td>$X^2 = 9.24^{**}$, df = 1</td>
<td>$X^2 = 3.19$, df = 1</td>
</tr>
<tr>
<td><strong>Subject Talk</strong></td>
<td>$X^2 = 14.91^{***}$, df = 1</td>
<td>$X^2 = 4.27^*$, df = 1</td>
</tr>
</tbody>
</table>

* $p < .05$
** $p < .01$
*** $p < .001$
Figure 9 Percentages of Facilitator and Subject Talk—Full-Session Analysis
Figure 10 Percentages of Facilitator and Subject Talk—Dramatic Play. Segments Analysis
For treatment group B, predictions of increased subject talk and decreased facilitator talk were upheld in both the full session analysis and the analysis for dramatic play segments only. See Table 9 for a summary of those Chi Square values.

Facilitator Talk—Early Sessions

The overall Chi Square obtained for the full-session analysis of facilitator talk during early sessions (See Table 10, Figure 11) disclosed a significantly different frequency pattern for treatment Groups A and B ($X^2 = 50.30, df = 4, p < .001$). Subsequent Chi Square analyses revealed that only two categories of facilitator talk contributed to that significant overall Chi Square: (1) Sensory talk ($X^2 = 33.76, df = 1, p < .001$); and (2) Silence ($X^2 = 10.01, df = 1, p < .01$). Consistent with prediction #5, the frequency of facilitator sensory talk was significantly greater for treatment Group A than for treatment Group B, suggesting that the facilitator did conduct intervention with fluid materials differently in the two treatment modes. The significantly greater frequency of facilitator silence in treatment Group B than in treatment Group A, however, was not anticipated. It seems that although the facilitator attempted to use tangential talk more frequently with treatment Group B (prediction #8), in actuality, facilitator tangential talk was not significantly different for the two groups; with Group B, the facilitator apparently used silence more frequently.
Consistent with prediction #6, there were no significant differences in relative frequencies of uncategorizable facilitator talk.

**Facilitator Talk -- Late Sessions**

The overall Chi Square obtained for the full-session analysis of facilitator talk during late sessions was also significant ($X^2 = 33.28$, $df = 4$, ($p < .001$) (See Table 10, Figure 11). Subsequent Chi Squares revealed that, contrary to prediction #3, the relative frequency of facilitator make-believe talk was greater in treatment Group A than in treatment Group B ($X^2 = 13.09$, $df = 1$, ($p < .001$). However, the relative frequency of facilitator realistic talk was also greater in Group A than in Group B ($X^2 = 4.87$, $df = 1$, ($p < .05$). Facilitator sensory talk (prediction #8) in treatment Group A was once again significantly greater than in Group B ($X^2 = 6.89$, $df = 1$, ($p < .01$). And as in the early sessions, there was significantly more silence (prediction #7) in treatment Group B than in treatment Group A ($X^2 = 7.54$, $df = 1$, ($p < .01$).

**Dramatic Play Segments Only.** Because it was critical to establish that the facilitator attempted to elicit equivalent amounts of make-believe talk in both treatment groups, the middle seven minutes of the dramatic play segments of late sessions (same sessions as in full-session analysis) were subjected to a Chi Square analysis (See Table II). That test achieved significance ($X^2 = 19.66$, $df = 3$, ($p < .001$). Subsequent Chi Squares revealed that relative amounts of make-believe
<table>
<thead>
<tr>
<th></th>
<th>Early Sessions (A versus B)</th>
<th>Late Sessions (A versus B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make-Believe Talk</td>
<td>$X^2 = 50.30^{***}$ df = 4</td>
<td>$X^2 = 33.28^{***}$ df = 4</td>
</tr>
<tr>
<td>Realistic Talk</td>
<td>$X^2 = 0.09$, df = 1</td>
<td>$X^2 = 4.87^*$ df = 1</td>
</tr>
<tr>
<td>Sensory Talk</td>
<td>$X^2 = 33.76^{***}$ df = 1</td>
<td>$X^2 = 6.89^{**}$ df = 1</td>
</tr>
<tr>
<td>Silence</td>
<td>$X^2 = 10.01^{**}$ df = 1</td>
<td>$X^2 = 7.54^{**}$ df = 1</td>
</tr>
<tr>
<td>Uncategorizable Talk</td>
<td>$X^2 = 2.40$, df = 1</td>
<td>$X^2 = 0.89$, df = 1</td>
</tr>
</tbody>
</table>

$^* p < .05$
$^{**} p < .01$
$^{***} p < .001$
Figure 11  Percentages of Talk in Facilitator Category Clusters—Full-Session Analysis
facilitator talk were actually greater in treatment Group B ($X^2 = 10.35, df = 1, p < .01$). These findings indicate that the source of the greater frequency of facilitator make-believe talk for treatment Group A in the full-session analysis was not dramatic play. Rather, it was make-believe talk that occurred in the course of the facilitator's more active intervention with fluid materials for that group. This analysis also revealed that facilitator realistic talk was significantly greater in treatment Group B than in treatment Group A ($X^2 = 7.62, df = 1, p < .01$). Thus, although the facilitator attempted to keep relative levels of both realistic and make-believe talk equivalent in both treatments in practice, that did not occur.

**Dramatic Play Segments—Early to Late Sessions.** The overall Chi Square for treatment Group B did not achieve significance ($X^2 = 5.37, df = 3, N.S.$). However, the overall Chi Square for treatment Group A did attain significance ($X^2 = 17.34, df = 3, p < .001$). Subsequent Chi Square analyses revealed that the relative frequency of facilitator make-believe talk increased ($X^2 = 5.36, df = 1, p < .05$) and the relative frequency of facilitator realistic talk decreased ($X^2 = 11.58, df = 1, p < .001$) from early to late sessions. The findings for treatment Group A are consistent with prediction #3; however, the Group B findings of no significant change in relative amounts of facilitator make-believe and realistic talk suggest that the facilitator failed to properly implement
Table 11

CHI SQUARE TESTS OF INDEPENDENCE FOR FACILITATOR VERBAL BEHAVIORS DURING DRAMATIC PLAY SEGMENTS OF TRAINING SESSIONS

<table>
<thead>
<tr>
<th>Group</th>
<th>Early Sessions (A versus B)</th>
<th>Late Sessions (A versus B)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$X^2 = 7.17$, df = 3</td>
<td>$X^2 = 19.66^{**}$, df = 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Make-Believe Talk $X^2 = 10.35^{*}$, df = 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Realistic Talk $X^2 = 7.62^{**}$, df = 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Silence $X^2 = .87$, df = 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Uncategorizable Talk $X^2 = .81$, df = 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group</th>
<th>Group A (Early versus Late Sessions)</th>
<th>Group B (Early versus Late Sessions)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$X^2 = 17.34^{***}$, df = 3</td>
<td>$X^2 = 5.37$, df = 3</td>
</tr>
<tr>
<td>Make-Believe Talk</td>
<td>$X^2 = 5.36^{*}$, df = 1</td>
<td></td>
</tr>
<tr>
<td>Realistic Talk</td>
<td>$X^2 = 11.58^{***}$, df = 1</td>
<td></td>
</tr>
<tr>
<td>Silence</td>
<td>$X^2 = .33$, df = 1</td>
<td></td>
</tr>
<tr>
<td>Uncategorizable Talk</td>
<td>$X^2 = .07$, df = 1</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05

**p < .01

***p < .001
Dramatic Play Segment Analyses

Figure 12: Percentages of talk in facilitator category quarters—

--- Late Sessions ---

--- Early Sessions ---

Clusters:

Category

percentages

0

20

40

Treatment Group B

Treatment Group A
this aspect of the two treatments. Viewed in the context of subject verbal behaviors (below), however, another plausible interpretation emerges.

**Subject Talk -- Early Sessions**

The overall Chi Square for nine categories of subject talk (categories 8 and 9 were combined) achieved significance ($X^2 = 82.00, df = 8, p < .001$) (See Figure 13). That result indicates that frequency patterns for subject talk in treatment Groups A and B differed. Subsequent Chi Square analyses were conducted to determine the source(s) of the difference. The results are summarized in Table 12.

Treatment Group A subjects used significantly more "agreeing" talk (category #1) than treatment Group B subjects ($X^2 = 18.42, df = 1, p < .001$). The meaning of that finding is not immediately apparent.

Treatment Group B subjects used category #3 (asks for/gives information) more frequently than did treatment Group A subjects ($X^2 = 5.09, df = 1, p < .05$). This is consistent with expectations since category #3 is a "realistic talk" category. The finding treatment Group A subjects used more category #4 talk (sensory talk) than treatment Group B subjects ($X^2 = 12.02, df = 1, p < .001$) is also consistent with the finding of more category #3 talk for treatment Group B. While treatment Group A subjects were using sensory talk, treatment Group B subjects were apparently asking for or giving realistic (non-sensory) information.
<table>
<thead>
<tr>
<th></th>
<th>Early Sessions (Between A and B)</th>
<th>Late Sessions (Between A and B)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$X^2 = 82^{***}, \ \text{df} = 8$</td>
<td>$X^2 = 20.42^{**}, \ \text{df} = 8$</td>
</tr>
<tr>
<td></td>
<td>$X^2 = 18.41^{***}, \ \text{df} = 1$</td>
<td>$X^2 = 0.57, \ \text{df} = 1$</td>
</tr>
<tr>
<td>Agrees</td>
<td>$X^2 = 1.60, \ \text{df} = 1$</td>
<td>$X^2 = 0.72, \ \text{df} = 1$</td>
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<tr>
<td>Disagrees</td>
<td>$X^2 = 5.09^*, \ \text{df} = 1$</td>
<td>$X^2 = 1.66, \ \text{df} = 1$</td>
</tr>
<tr>
<td>Information</td>
<td>$X^2 = 12.02^{****}, \ \text{df} = 1$</td>
<td>$X^2 = 0.11, \ \text{df} = 1$</td>
</tr>
<tr>
<td>Sensory</td>
<td>$X^2 = 0.30, \ \text{df} = 1$</td>
<td>$X^2 = 0.97, \ \text{df} = 1$</td>
</tr>
<tr>
<td>Enjoyment</td>
<td>$X^2 = 5.82^{**}, \ \text{df} = 1$</td>
<td>$X^2 = 0.04, \ \text{df} = 1$</td>
</tr>
<tr>
<td>Tangential</td>
<td>$X^2 = 3.96^*, \ \text{df} = 1$</td>
<td>$X^2 = 6.62^{**}, \ \text{df} = 1$</td>
</tr>
<tr>
<td>Uncategorizable</td>
<td>$X^2 = 0.64, \ \text{df} = 1$</td>
<td>$X^2 = 0.32, \ \text{df} = 1$</td>
</tr>
<tr>
<td>Construction</td>
<td>$X^2 = 0.64, \ \text{df} = 1$</td>
<td>$X^2 = 9.44^{***}, \ \text{df} = 1$</td>
</tr>
<tr>
<td>Make-Believe</td>
<td>$X^2 = 17.42^{***}, \ \text{df} = 1$</td>
<td></td>
</tr>
</tbody>
</table>

* $p < .05$
** $p < .02$
*** $p < .01$
**** $p < .001$
Figure 13 Percentages of Subject Talk—Early Full-Session Analysis
Treatment Group A subjects used category #6 (tangential talk) more frequently than treatment Group B subjects \((X^2 = 5.82, \text{df} = 1, p < .02)\). This result was unexpected. It may suggest that by the time the facilitator administered treatment to Group B (experiment #2), she may have been more effective at curtailing subject tangential talk and keeping subject talk "on task".

The finding of significantly more uncategorizable talk for treatment Group B than for treatment Group A subjects \((X^2 = 3.96, \text{df} = 1, p < .05)\) may have resulted from the fact that three Group B subjects had quite immature speech development. Consequently, their audio tapes were extremely difficult to transcribe.

Finally, the analysis revealed that treatment Group B subjects used significantly more make-believe talk than treatment Group A subjects in the early sessions \((X^2 = 17.42, \text{df} = 1, p < .001)\).

Subject Talk—Late Sessions

An overall Chi Square revealed that frequency patterns for subject talk in treatment Groups A and B were significantly different \((X^2 = 20.42, \text{df} = 8, p < .02)\) (See Figure 14). In subsequent analyses, only the frequency pattern for categories 7 and 10 (uncategorizable and make-believe talk, respectively) were significantly different.

Treatment Group B subjects once again had higher frequencies of uncategorizable talk than treatment Group A subjects
Table 13

CHI SQUARE TESTS OF INDEPENDENCE FOR SUBJECT VERBAL BEHAVIOR DURING DRAMATIC PLAY SEGMENTS OF TRAINING SESSIONS

<table>
<thead>
<tr>
<th>Session Type</th>
<th>Chi-Square Statistic</th>
<th>Degrees of Freedom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Sessions (Between A and B)</td>
<td>$X^2 = 11.44$</td>
<td>$df = 6$</td>
</tr>
<tr>
<td>Late Sessions (Between A and B)</td>
<td>$X^2 = 7.82$</td>
<td>$df = 6$</td>
</tr>
<tr>
<td>Group A (Early versus Late Sessions)</td>
<td>$X^2 = 12.12^*$</td>
<td>$df = 5$</td>
</tr>
<tr>
<td>Make-Believe Talk</td>
<td>$X^2 = 7.29^{**}$</td>
<td>$df = 1$</td>
</tr>
<tr>
<td>Group B (Early versus Late Sessions)</td>
<td>$X^2 = 7.47$</td>
<td>$df = 5$</td>
</tr>
<tr>
<td>Group A (Make-Believe versus Realistic Talk)</td>
<td>$X^2 = 58.58^{***}$</td>
<td>$df = 1$</td>
</tr>
<tr>
<td>Make-Believe Talk</td>
<td>$X^2 = 39.50^{***}$</td>
<td>$df = 1$</td>
</tr>
<tr>
<td>Realistic Talk</td>
<td>$X^2 = 19.08^{***}$</td>
<td>$df = 1$</td>
</tr>
<tr>
<td>Group B (Make-Believe versus Realistic Talk)</td>
<td>$X^2 = 2.29$</td>
<td>$df = 1$</td>
</tr>
</tbody>
</table>

* $p < .05$
** $p < .01$
*** $p < .001$
Figure 14 Percentages of Talk in Subject Category Clusters for Late Sessions—Full-Session Analysis
The unintelligible (immature) speech of three Group B subjects in again advanced as an explanation.

Whereas treatment Group B subjects used more make-believe talk than treatment Group A subjects during early sessions, the late session analysis disclosed that frequency pattern was reversed ($X^2 = 9.44$, df = 1, $p < .01$). Although treatment Group A subjects started off at a (verbal) symbolic play disadvantage, by late sessions, they had significantly surpassed the frequency level of make-believe talk used by treatment Group B subjects.

The reader may recall that during late sessions, facilitator make-believe talk was greater for treatment Group A than for treatment Group B. The possibility that the facilitator did not implement the treatments as planned was advanced as the most obvious explanation. In view of the fact that make-believe talk for Group A subjects during late sessions was also greater than for Group B subjects, and equally plausible explanation is that the subjects affected the amount of facilitator make-believe talk. Group A subjects may have elicited more make-believe facilitator by engaging in more make-believe talk themselves.

**Changes from Early to Late Sessions.** The overall Chi Square for treatment Group A subject talk revealed a significant difference ($X^2 = 12.12$, df = 5, $p < .05$) in frequency patterns between early and late sessions (See Table 12 and
Figure ). Subsequent analysis revealed that the frequency patterns for the following categories were significantly different: (a) category #1, "agreeing" talk, decreased in late sessions ($X^2 = 6.84, df = 1, p < .01$); (b) sensory talk (category #4) decreased in late sessions ($X^2 = 23.06, df = 1, p < .001$); (c) tangential talk decreased in late sessions ($X^2 = 9.30, df = 1, p < .01$); and (d) make-believe (category #10) talk increased in late sessions ($X^2 = 57.67, df = 1, p < .001$).

The overall Chi Square for Group 3 subject talk did not achieve significance. The frequency patterns for early and late sessions, therefore, did not differ significantly from one another for that group.

When all realistic (minus sensory) talk was compared to a composite of categories 8, 9, and 10 (construction and make-believe), Group B subject talk did not change significantly from early to late sessions. For Group A subjects, however, there was a significant change ($X^2 = 58.58, df = 1, p < .001$). In Group A, make-believe subject talk increased significantly ($X^2 = 39.50, df = 1, p < .001$) from early to late sessions and realistic subject talk decreased significantly ($X^2 = 19.08, df = 1, p < .001$) from early to late sessions.

**Summary**

**Improvement.** With increases in subject make-believe talk and decreases in realistic subject talk used as indices of improved verbal symbolic play skills, these analyses
indicate that treatment Group A subjects were significantly improved. Significant improvements in verbal symbolic play skills were not observed for treatment Group B subjects. Although analyses of variance conducted on ratings of observational data did not reveal a significant treatment effect, a significant treatment effect did emerge during training sessions. This is consistent with a finding reported by Soiberg (1972). She found that the observed quality of spontaneous play was significantly better in an experimental setting than in a natural play setting. A transfer of play skills difficulty seems to be indicated.

Implementation. The predicted (appropriate) increase in facilitator make-believe talk and the associated decrease in realistic facilitator talk was significant for treatment Group A but not for treatment Group B. Analyses of subject talk indicated that subjects in treatment Group B may simply have elicited less make-believe facilitator talk.

The facilitator apparently did conduct appropriate parts of the treatments differently. There were significantly fewer instances of facilitator and subject sensory talk in treatment Group B than in treatment Group A. As planned, for Group B subjects, the facilitator did not model, elicit or reinforce sensory talk during play with fluid materials but did do so for Group A subjects.

Although the facilitator attempted to use more tangential talk in treatment Group B than in treatment Group A, the
analyses revealed that tangential facilitator talk was not significantly different for the two groups. Instead, the facilitator was more frequently silent with Group B than with Group A.

In general, then, these analyses indicate that the facilitator implemented the two treatments according to the manual. The analyses also reveal that by late training sessions, subjects in treatment Group A were using significantly more make-believe talk than subjects in treatment Group B.
CHAPTER V

DISCUSSION

This chapter will contain six major subsections:
1. Re-statement of the hypotheses under investigation.
2. Summary of Analysis: Experiment #1:—Treatment Group (A) versus Control Group (B).
3. Summary of Analysis: Experiment #2—Treatment Group (A) versus Comparison Treatment Group (B).
4. Conclusions
5. Recommendations for Further Research.

Hypotheses

Hypothesis #1 applies to experiment #1 only, and hypothesis #2 to experiment #2 only. The remaining hypotheses (#3 and #4) apply to both experiments.

Experiment #1.

1. Treatment Group (A) subjects will improve more than Control Group (B) subjects.
   1a. Treatment Group (A) subjects will show greater increases on imaginativeness, concentration and affect ratings than the control group (B) subjects.
   1b. Treatment Group (A) subjects will obtain higher scores on a cognitive measure of conceptual tempo (EC-MFF; higher scores=more reflective) and will obtain lower scores on a measure of motor inhibition (Draw-A-Line-Slowly; lower scores=more
motor inhibition) than control group (B) subjects.

1c. Treatment Group (A) subjects will show a greater preference for functionally unstructured rewards than control group (B) subjects.

**Experiment #2**

2. Treatment Group (A) subjects will improve as much as comparison treatment group (B) subjects.

2a. Treatment A will be as effective as comparison treatment B for increasing ratings of imaginativeness, concentration and affect.

2b. Treatment A will be as effective as comparison treatment B for increasing scores on a measure of conceptual tempo (EC-MFF) and for lowering scores on a motor inhibition task (Draw-A-Line-Slowly).

2c. Subjects exposed to treatment A will show a different frequency pattern for selection of functionally structured and unstructured rewards. Subjects in Group A will select more unstructured rewards than subjects in Group B.

**Experiments #1 and #2**

3. Subjects classified "high" on pre-treatment fantasy level will be more responsive to both treatment modes than subjects classified "low" on that variable. This greater responsiveness of highs will be reflected in

a. greater increases in imaginativeness, concentration and affect ratings for highs.

b. greater increases in reflection (as estimated by increased EC-MFF scores) and greater increases in motor inhibition (as estimated by decreased motor inhibition scores on Draw-A-Line-Slowly) for highs.

c. more frequent selection of unstructured rewards for highs.

4. There will be a positive association between reflection and motor inhibition both prior to and subsequent to play training for both groups.
As indicated earlier, subjects from both the experimental and the control groups were from the same preschool classroom. There is, therefore, an ever-present problem of possible contamination of control subject treatment by Group (A) subjects. The following comments are made in acknowledgement of this fact and in the interest of exploring relationships which warrant further investigation under less restrictive design conditions.

Summary of Analysis: Experiment #1--
Treatment Group (A) versus Control Group (B)

Imaginativeness. Generally, the significant fantasy x time interaction for imaginativeness ratings revealed that obtained pre-to-post gains were significantly greater for low fantasy level subjects than they were for highs. That effect obtained for "lows" in both the treatment group (A) and the control group (B).

Concentration. With regard to concentration ratings, there was a significant treatment x fantasy level interaction. As with the imaginativeness ratings, the meaningful increase came from "lows" in the treatment group (A). In contrast to imaginativeness ratings, however, concentration ratings for both "highs" and "lows" in the control group (B) increased slightly.

Several possible interpretations are offered.

1. The observed increases in imaginativeness and concentration may simply reflect a differential maturation effect for subjects in both the treatment (A) and the control
(B) groups.

2. The increase may indicate contamination of the control group (B) subjects by the treatment group (A) subjects. Imaginative play skills may have been acquired from treatment group (A) subjects by control group (B) subjects via observational learning. Those skills may then have been reflected in increased imaginativeness and concentration ratings.

3. A regression effect for lows may have been operative. Because their initial rating levels were very low, increases may have simply reflected a greater propensity for improvement.

4. The facilitator may have been more effective with low than with high fantasy level subjects and/or may have adapted intervention to a level that was inappropriately low for highs.

5. If there was a facilitator effect (and there is no way to determine that from this design), the fantasy level of the facilitator may have interacted with that of the subjects to produce the obtained results. For example, low fantasy level subjects may have been more responsive to the hypothetically low fantasy level of the facilitator.

6. Because the facilitator was blind to the fantasy level of subjects, it does not seem likely that greater intervention effort was expended for lows than for highs.

7. Finally, these results may reflect the possibility of
greater contamination for lows than for highs. Because no subjects' name appeared in the body of the observation protocols, there is no way to accurately determine whether different inter- and intra-fantasy level group interaction patterns might have prevailed for low and high fantasy level subjects.

Affect. No significant effects were obtained for affect ratings. Only a slight increase in the mean was observed for lows in the treatment group (A). Failure to obtain gains in affect is surprising in view of the literature previously reviewed. The following explanations are suggested:

1. The acquisition of new symbolic play skills was not substantial enough for subjects to experience the "joy of mastery" (White, 1959, 1965) or the familiarity associated with enjoyment (Tomkins, 1962).

2. The duration of the treatment may not have been sufficient to permit integration of acquired play skills. Total amount of time devoted to symbolic aspects of the overall play training procedure was two hours and forty-five minutes to three hours. Although Freyberg (1973) obtained significant affect gains in a comparable period of time, other factors described below may have rendered that treatment duration insufficient.

3. Instrumentation difficulties were encountered with regard to the affect rating scale. Inter-rater reliability for affect was .73 as compared to .88 and .92 for
imaginativeness and concentration ratings respectively. Rating difficulties occurred with regard to distinguishing negative affect toward another child who disrupted the play from negative affect that was directed at the toys/materials or the play situation.

There is some indication, also, that the three raters may have been systematically more generous with affect ratings at pre-test than at post-test. Three basic criteria were applied to affect ratings: (1) absence of indicators of negative affect; (2) indicators of interest; and (3) indicators of enjoyment. Interest seems to have been a sufficient criterion for a moderate to high affect rating on pre-test protocols. On post and final test protocols, specific indicators of enjoyment seem to have been additional criteria for moderate to high affect ratings.

4. If contamination was an appropriate explanation for some of the control group (B) gains in imaginativeness and concentration ratings, it seems logical, in view of the literature relating positive affect to symbolic play skills, that affect ratings also should have reflected these increases. The fact that they did not casts doubt on the contamination interpretation and lends support to the explanation regarding instrumentation difficulties. It may also be that treatment group (A) subjects would have had to express substantially higher levels of
positive affect for control group (B) subjects to have acquired similar behaviors simply through observation.

5. Finally, Parten (1933) wrote that as children moved toward more interactive forms of play, opportunities for social conflicts might increase. One may assume, then, that (at least initially) higher levels of interactive play might result in more frequent expressions of negative affect due to occasional social clashes. However, Parten's early view has not been upheld by the research reviewed in Chapter II. Smilansky (1968), Freyberg (1973), Marshall and Hahn (1967) and Dansky (1976) all reported indicators of enhanced positive affect and reduced negative affect subsequent to play training.

**Conceptual Tempo and Motor Inhibition.** No significant effects were obtained for conceptual tempo or for motor inhibition. There are slight indications that a fantasy effect may have been operative; however, no clear-cut pattern emerged. Only "highs" in the Treatment group (A) showed predicted gains on reflection. With regard to motor inhibition, predicted decreases were observed for both highs and lows in the Treatment group (A) and also for highs in the Control group (B). Contamination and maturation effects are once again suggested. However, the failure for clear-cut fantasy level patterns to emerge casts doubt on even those suggested explanations. The small cell N's and substantial standard deviations may also have precluded the emergence of any patterns.
Finally, in the case of the conceptual tempo measure (EC-MFF), the early childhood form may not have been the most appropriate instrument. Scores from this instrument are only based on the sum of correct first responses to each task item. The standard children's and adults' forms, in contrast, are scored for number of errors and for response latency. It may be that response latency is the aspect of conceptual tempo most clearly related to imaginativeness.

The EC-MFF was originally selected because the age range for this sample extended downward to 4.2 years in at least 2 cases. It was assumed that the standard childhood form would be too difficult for these younger children. The fact that mean scores on EC-MFF were fairly high (in contrast to means obtained by Banta, 1970) suggests that the early childhood form may actually have been too easy for this sample (ceiling effect) and may not have been an effective discriminator. Finally, a simple testing effect may have inflated scores for high fantasy level subjects. As hypothesized, high fantasy level may be associated with a reflective disposition. Further, the treatment (A) may have enhanced the strength of that association.

Summary of Analysis: Experiment #2--Treatment (A) versus Comparison (B) Group

As noted earlier, these results are particularly difficult to interpret due to design limitations. After post-testing, a second experiment was conducted. The nine subjects who had
comprised the control group in the first experiment were exposed to an alternate treatment form. At the conclusion of that six-week comparison treatment period (experiment #2), all subjects were once again tested in the same manner as at post-testing. This final test served as a post-treatment test for the comparison group (B), but as a six-week delayed post-test for the group exposed to the first treatment (A). The following interpretations are offered very tentatively and in full recognition of these unusual design limitations.

**Imaginativeness.** In general, the significant treatment x fantasy x time interaction for imaginativeness ratings revealed that while high fantasy level subjects in each treatment group were responsive to their respective treatments, lows only responded positively to treatment A. However, imaginativeness ratings for comparison group (B) lows decreased a meaningful (though non-significant) amount. The data also indicated that the initial significant pre-test difference between highs and lows (which did not appear at post-testing) was regained for comparison group (B) by final testing. Highs and lows in that group (B) were significantly different at final testing.

**Concentration.** The final test concentration results generally reflect a similar pattern. Although the effect is slightly less dramatic (post hoc tests were not significant) for concentration than for imaginativeness ratings, the trend was for comparison group (B) highs to show increased concentration ratings and for lows to reflect decreased concentration
Although interpretations must be tentative, the fact that imaginativeness and concentration gains for comparison group lows deteriorated when these subjects were exposed to the comparison treatment suggests the following:

1. Control group (B) post-test gains discussed earlier were perhaps more adequately explained by a contamination than by a maturation effect.

2. The two treatment forms may be differentially effective with high and low fantasy level subjects. Highs may be capable of responding to either treatment form whereas lows may only be responsive to treatment A. The following questions are offered not as interpretations or conclusions, but rather for their heuristic value.

**Question:** Could the productive-non-productive descriptors used by Wolfgang (1977) be strongly associated with and perhaps overlap with high/low fantasy level designations?

**Question:** Is the full treatment mode (A) as described by Wolfgang (1977) more effective with lows because lows are developmentally at the lower end of the impulse control continuum and therefore require reactivation? Have highs already achieved impulse control through needs-expressive language?

Although these questions are highly speculative, the implications that follow thereupon are meaningful enough to ratings.
warrant further investigations. More specifically, we may be dealing with a major issue—the dispelling of a "uniformity myth" (Kiessler, 1966). Further research may demonstrate that for some subjects, the traditional modeling plus participatory intervention procedures may not be appropriate. It may be that a closer match between subject, treatment and facilitator may be essential or desirable if maximum symbolic play gains are to be attained in the most efficient manner.

Affect. The significant main effect obtained for time with regard to affect ratings for comparison group (B) is extremely puzzling and fails to fit into the interpretive context offered above for imaginativeness and concentration ratings. The increase observed for highs is theoretically and empirically meaningful—i.e., gains in imaginativeness are associated with gains in positive affect. However, low fantasy level subjects in the comparison group showed decreased imaginativeness and concentration ratings. In that case, one would therefore expect to observe no gains or perhaps even a slight decrease in affect ratings. Because cell n's are so small, it is possible that this observed increase in affect ratings for lows was the result of chance. However, it does suggest the need for further investigation of the specific relationship between increased imaginativeness and positive affect. The relationship may prove to be more complex than previous research has indicated.
Conceptual Tempo. Only a significant main effect for fantasy level was obtained on the conceptual tempo measure. Highs from both treatment groups taken together were significantly more reflective at final testing than lows for both groups taken together. Highs in the comparison treatment group (B) also became significantly more reflective subsequent to exposure to that treatment. Although the predicted positive association between conceptual tempo and fantasy level was not obtained at pre-testing, these final-test outcomes do provide tentative support for that relationship. More parsimoniously, however, increases for highs may simply reflect that a differential maturation rate or a testing effect was operative for that fantasy level.

Motor Inhibition. While Treatment A had a non-significant motor inhibiting effect on both highs and lows in that group, only lows in the comparison group (B) showed a similar (non-significant) inhibiting response. Highs in the comparison group (B) responded with less motor inhibition.

As with the conceptual tempo measure, highs showed a different pattern of response to treatments A and B. The meaning of this outcome pattern is not immediately apparent. Although it is highly speculative in nature, the following interpretation may have some heuristic value.

The outcome patterns obtained for conceptual tempo and motor inhibition may be interpretable in terms of a potential relationship between fantasy levels and developmental status.
of impulse control. Generally, high fantasy level subjects may be developmentally more advanced in terms of impulse control than low fantasy level subjects. Passivity (in terms of impulse control) may be more characteristic of low fantasy level subjects, and aggressive responding more characteristic of high fantasy level subjects.

The critical component that differentiated Treatment A from Comparison Treatment B was reactivation intervention. As described in an earlier chapter, reactivation involves helping the child perceive his world (and especially his play world) as pleasurable versus hostile to his needs. Operationally, it consists of two thrusts: (1) carefully guided exploratory play experiences with fluid materials; and (2) teaching the child how to control the fluid play media in lieu of his emotionally being overwhelmed by it (e.g., as in "wild", out-of-control finger painting). In the comparison treatment (B), the same play activities were presented, however, reactivation (and therefore "learning-to-control-fluid-play-media") interventions were avoided.

The decreased motor inhibition scores for treatment A lows, then, might reflect that these subjects became more mature in terms of impulse control. They may have not only become "turned on" to the play media, but may also have acquired some important skills for controlling these play media. These control skills may have been reflected in their more controlled response to the motor inhibition task.
For comparison treatment group (B) lows, however, decreased motor inhibition may have reflected a regressive trend. Because there was no reactivation intervention (and therefore no "control" intervention), the play activities with fluid materials may have simply reinforced low fantasy level subjects' perceptions of these play materials as overwhelming and hostile (Wolfgang, 1977, Mahler, 1968, 1975) to their needs. This perception may have resulted in increased passivity and have been reflected in a regressive kind of motor inhibition.

For lows in Group A, greater inhibition may have reflected growth in terms of impulse control. For lows in Group B, however, it may have represented regression to or stagnation at a passive response level.

The responses of high fantasy level subjects, in contrast, might be explained in the following manner: Highs may have already been "turned on" to their play world but may still have lacked skills to control the play media. They may still have experienced the play media as hostile to their needs and may therefore have aggressed on them instead of retreating to passivity as did lows. Exposure to treatment A may have resulted in acquisition of those control skills and may therefore have resulted in a more mature kind of motor inhibition. Exposure to comparison treatment B may have reinforced current levels of functioning (aggressive) and may have been reflected in decreased ("less mature") motor inhibition.
Finally, the predicted positive association between reflection (EC-MFF) and motor inhibition (Draw-A-Line-Slowly) prior to and subsequent to both treatments was not upheld. The low non-significant correlations may simply reflect that treatment group n's were small and that standard deviations were substantial, that unreliability existed in the measures or in their administration, or that a combination of the above occurred. These interpretations seem plausible in view of the fact that previous research has shown significant positive correlations between these two measures (e.g., Banta, 1970).

Rewards. There was a non-significant trend for comparison treatment group (B) subjects to prefer structured over unstructured rewards. While group (A) subjects were approximately equally divided in preference for either type of reward at both post and final testing, 8 out of 9 group B subjects selected functionally structured rewards at final testing. It is plausible that because group B subjects were not exposed to reactivation interventions, that they did not expand their repertoire of available play behaviors to use with unstructured rewards. They may therefore have felt more comfortable selecting rewards whose functions were clearly specified (structured) and which did not require that the child impose his own functional structure on them.

The above must be interpreted in the following context, however. In spite of attempts to narrow the definitional
criteria for the two types of rewards to one prominent dimension, (functional structure), in retrospect, it seems that this ideal was not achieved. The following interpretations emerged from an examination of the recorded comments subjects made as they selected their rewards.

1. **Relative availability.** The most frequently selected reward from the array of eight was bubble blowing solution plus wand. Subjects indicated that they already had many of the other reward options and added that they rarely had "bubbles".

2. **Parental injunctions.** Two parental injunctions were heard repeatedly during reward selection: (a) against "messy" materials; and (b) against toys/materials that were not easily shared with siblings. Equally interesting is the fact that after stating these injunctions, children often selected rewards in spite of them--i.e., desire to choose a messy material or one that was not easily shared took precedence over related parental injunctions.

   **Summary.** The data with regard to hypothesis #2 (treatment versus comparison group) are generally inconclusive. Once again, fantasy level effects were more pronounced than treatments. In addition, there were some indications of a treatment x fantasy level effect. Lows tended to respond positively to the treatment in experiment #1, but negatively to the alternative treatment form in the second experiment.
This finding provides partial support for the theoretical assumption that "reactivation" must precede imaginative play skills training for maximal outcomes to obtain. The imaginativeness and concentration data in particular may indicate that lows (more than highs) may need to be "reactivated" before they can be maximally responsive to symbolic play training. It may indicate, however, that the method used to test that assumption was not the most appropriate one.

Conclusions

The play facilitation procedure (Wolfgang, 1977) investigated in this project was probably an effective one for improving levels of imaginative play in this small sample of preschool children. The absolute gains for the three major dependent variables (imaginativeness, concentration, and affect ratings) did not achieve the outcome levels reported by Freyberg (1973). Brevity of the treatment relative to the total number of different play experiences was advanced as a possible explanation for that outcome. Moreover, treatment group A gains were not significantly greater than control group (B) gains (experiment #1). A number of explanations were considered, including the following: (1) possible contamination by observational learning of control subjects by the treated subjects (A); and/or (2) maturation effects for improved subjects in both treatment group A and the control group (B).
It should be noted that in two important respects, the experimental procedures employed in this study were not in strict compliance with the procedures outlined in the model (Wolfgang, 1977). (1) The procedure is intended to be individualized with regard to rate of presentation as well as with regard to the specific play materials employed. In this investigation, rate of presentation and type of play materials were standardized. (2) During sociodramatic play training, an ineffective player is supposed to be grouped with two "star players" (children with effective sociodramatic play skills). For this study, sociodramatic play training groups were formed essentially on the basis of an assessment of their compatibility.

Of greater significance, perhaps, were the apparent differential treatment effects obtained for high and low fantasy level subjects. Highs and lows in both treatment groups did not respond uniformly. In general, lows were more responsive than highs to treatment A (Experiment #1) but responded negatively (with decreased imaginativeness and concentration ratings) to comparison treatment B (Experiment #2). Although their increases for imaginativeness and concentration ratings were not great, no negative response to either treatment form was observed for highs.

Similar treatment x fantasy interactions were obtained for the conceptual tempo and motor inhibition outcome measures. Subsequent to the treatments, highs in both treatment groups
were generally more reflective than lows. These effects did not fall into any detectable pattern for motor inhibition.

Failure to obtain the expected positive correlations between reflection and motor inhibition may be attributable to use of an inappropriate instrument to assess conceptual tempo and/or may reflect the treatment x fantasy level interactions summarized above.

Failure for increased affect ratings to be associated with increased imaginativeness ratings can probably be attributed to rating difficulties experienced with the affect rating scale. However, the possibility of a more complex relationship than that proposed by Freyberg (1973) between imaginativeness and affect cannot be ruled out.

Finally, as in the Pulaski (1973) investigation, the experimental reward procedure yielded inconclusive results. There was one instance, however, of an obvious trend for comparison treatment (B) (Experiment #2) subjects to prefer structured to unstructured rewards. Because expansion of the play repertoire with fluid materials was avoided in that treatment, these subjects may have felt more comfortable selecting rewards whose functions were clearly specified and which did not require them to experiment with them functionally.
Recommendations for Further Research

The following suggestions are offered:

Larger samples and more varied populations. A replication of this study (with design improvements) with larger and more varied subject N's is needed to support the tentative findings reported here and permit generalization of these findings to other populations.

Broader range of outcomes. Multidimensional assessment of outcomes should be incorporated into future investigative designs. For example, the imaginativeness rating scale (Freyberg, 1973) used in the present investigation yielded substantially less information than the sociodramatic play schedule used by Dansky (1976).

 Reactivation-relevant outcome variables. Procedures and measures need to be identified or developed to assess outcomes specifically related to reactivation intervention procedures.

Facilitator effects. Future investigations should incorporate several facilitators into their designs to control for facilitator effects. Facilitator personality characteristics (e.g., fantasy predisposition, conceptual tempo) should be assessed so that potential outcomes due to facilitator differences can be interpreted.

Transfer instructions. Further field investigations should examine the effects of specific instructions to transfer skills acquired in experimental settings to classroom play...
or to other natural settings.

Different treatment durations. Future investigations should investigate the effects of varying treatment duration (and perhaps distribution of treatment sessions over time) on imaginative play outcomes.

Follow-up. Finally, extensive follow-up investigations should be conducted. These should be undertaken both in the spirit of demonstrating that imaginative play gains endure over extended follow-up periods, and to determine if those skills do, in fact, facilitate the transition from sensory-motor behaviors to representational operations.

Summary Statements

The literature reviewed in an earlier chapter revealed that the capacity to engage in imaginative play occupies a leading position in the cognitive development of the preschool child. Imaginative play was shown to be transitional between sensori-motor and representational modes of operation. However, the literature also revealed that for some children, that transitional mode fails to develop or develops at a later age. In view of the leading position imaginative play theoretically occupies, it seems warranted and in fact highly desirable to develop the most effective means to ensure that the cognitive skills associated with it do develop to bridge those two major phases of cognitive development.

The present study was an attempt to provide general empirical validation for a play facilitation model described by
Wolfgang (1977) (Experiment #1) as well as to test one of the major assumptions underlying that model (Experiment #2).

The data revealed that different imaginative play training methods may not be uniformly effective in enhancing imaginative play behavior for all subjects. In this investigation, subject pre-training fantasy levels interacted with the two treatment forms. Further research may reveal that the imaginative play skills of low fantasy level subjects are related to their lower developmental status of impulse control and that imaginative play training procedures that take that developmental factor into account may be more effective. And similarly, further investigations may reveal that high fantasy level subjects have already acquired (or are closer to acquisition of) expressive impulse control, or the capacity to use needs-expressive language. As a result, they may be more responsive to more parsimonious training procedures such as the symbolic play modelling and participatory intervention procedures reviewed in Chapter II.

Finally, subsequent investigations may reveal that the fantasy predisposition (or other personality characteristics) of the play facilitator interacts with treatment modes and/or with the fantasy predisposition of subjects. Although there is only a very slight indication that a facilitator effect of some sort may have occurred in the present investigation, these implications are presented here to underline the importance of identifying procedures and conditions that are
optimally effective for enhancing imaginative play skills in a broad range of children.
REFERENCES


Kennedy, J. J. An intuitive approach to the design and analysis of educational experiments. Pre-publication manuscript, The Ohio State University, Columbus, Ohio, 1974.


APPENDICES
APPENDIX A

1. Play Facilitator's Training Manual
2. Observer's Introductory Training Manual
3. Training Manual for Raters of Observation Protocols
4. Instructions for Judges of Inter-Observer Agreement
PLAY FACILITATOR'S
TRAINING MANUAL

(Elaborated and standardized from a play facilitation procedure described by Wolfgang, 1977.)

Deanna M. Lamb
Ohio State University
1977
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Play Facilitator's Training Manual

Purpose of the Manual

This manual has 3 major purposes: (1) to provide you, the play facilitator (F) with a method for implementing the Wolfgang (1977) play facilitation approach; (2) to supplement the method as described by Wolfgang (1977); and (3) to standardize the Wolfgang method for experimentation. One of the difficulties posed by this type of endeavor is that it is not always possible to anticipate particular responses that subjects might make. However, the following elaboration of objectives and procedures as well as the many samples of F behavior should prepare you adequately to deal with most subjects. Rehearsal will also help prepare you for the inevitable unexpected challenges.

This is a "how to" manual. It is not intended to explicate the underlying theory. For this and for a general presentation of the goals, principles and tools of intervention, read the first 50 pages of the Wolfgang text. Any attempt to use this manual without reference to the Wolfgang presentation may be seriously misguided and may result in inappropriate application of the method.

NOTE: For the sake of readability, the F will be referred to as "she" and the Subject (S) as "he" throughout the remainder of this manual.
General Plan

There will be a total of 18 subjects participating in the project. They will be randomly assigned to one of two treatment groups, A or B. Group A will be treated first (during a 6-week period), all subjects will be post-tested, and then Group B will receive a variant (also over a 6-week period) of the treatment given Group B. Each subject will receive 6 individual 30-minute training sessions. Subjects will then be grouped into fixed triads; these triads will receive three 30-minute group training sessions, making a total of 9 30-minute sessions per subject.

The following is a session-by-session outline of the contents of each session and approximate times for each type of activity. It is important that this outline be adhered to in order to facilitate replication of this effort and to ensure that subjects in each group have comparable experiences.
Setting Up the Playroom

The experimental playroom (referred to as the "special playroom" by the children) will be the outer office adjacent to the center director's office. It is a 10 foot by 10 foot, carpeted room. It is well lit and ventilated. You will be able to adjust the lighting and the temperature to suit yourself and the subjects during treatment sessions. There is a bathroom adjacent to the playroom. It can be used for "clean-up" after painting activities.

The following is a list of the contents of the playroom. Please check the list carefully each time you set the playroom up. It is imperative that everything be there, in its proper place, for each session. A diagram of the physical arrangement of all the play tools and furniture follows the list. This arrangement, too, must be standard for all sessions. The supplies most likely to run out are finger paints, easel paints and paper. The play-doh may become dirty looking or the colors may become mixed after several uses. A new supply should be furnished when that occurs. The doll furniture is not particularly sturdy--it is likely to be broken if stepped on or handled roughly. It should be repaired or replaced immediately in the event that it is damaged.
Figure 15: The Experimental Playroom
Playroom Contents

The following is a list of the toys, play materials and equipment which must be in the playroom during each of the individual treatment sessions (sessions #1-6):

Toys

- Large set of architectural table blocks (natural wood color, varied sizes and shapes).
- 2 sets miniature, bendable doll families (5-6 inches in height, dressed realistically)—1 black and 1 white family, each having a mother, father, little girl, little boy, and a baby.
- Set of zoo animals (painted wood) including a lion, a tiger, an elephant, a giraffe, zebra, and a polar bear—no moving parts.
- Set of farm animals (painted wood) including a cow, horse, pig, rooster, chicken, ducks, lamb, and a goose—no moving parts.
- Set of realistic doll furniture including items for kitchen, bathroom, living room and bedroom.

Materials

- Finger paints (red, yellow, blue and green, each in separate 1-pound margarine tubs)
- Easel paints (red, yellow, blue and green, each in separate baby food jars)
- Play-doh (fresh supply—red, blue, green and white)
- Paper (11 x 14)—large supply
- Paper plates—large supply
- Cotton-tipped swabs
- Tongue depressors
- Crayons (large supply, assorted colors)
- Thumb tacks
- Paper towels
- White glue
- Masking and transparent tape
- Newspapers
- Felt markers, 1 each black and red
- Chocolate-coated candies

Equipment

- 1 mirror (27 x 14 inches)
- 1 reel-to-reel tape recorder and tapes
- 1 kitchen timer
- 1 child's work table (30 x 20 inches)
- 2 small chairs
- plastic drop cloths for furniture and carpet protection
- 1 adjustable table easel
- 1 clay board
- 4 large brushes
- 1 plastic painting smock

For the remaining treatment sessions (socio-dramatic play conducted in triads), the above materials and equipment and toys will be removed and replaced with a supply of homemade properties:

- dolls
- baby receiving blankets
- yarn
- string
- large purse
- strips of fabric for "dress-up"
- "medical props" (stethoscope, blunt-end scissors, adding machine tape, masking tape, aspirin bottles filled with chocolate-coated candy pills, tongue-depressors, thermometer)
- play-doh "pellets"
- paper and felt pen markers
- paper megaphones
- telephone
Session-by-Session Outline of Play Activities

Session #1
A. Introduction to the Playroom Contents and Procedures (3-5 minutes)
B. Mirror Activities (9-12 minutes)
   1. Activation (3-4 minutes)
   2. Mirroring (3-4 minutes)
   3. Body referencing (3-4 minutes)
C. Finger Painting--Introductory Experience (10-14 minutes)
   (Includes clean-up time)
D. Free-Choice Activity (Remaining time)

Session #2
A. Preparation and Brief Review of Contents and Procedures (1-2 minutes)
B. Mirror Activities (9-12 minutes)
   1. Activation (2-3 minutes)
   2. Mirroring (3-4 minutes)
   3. Body Referencing (approximately 5 minutes)
C. Finger Painting (10-15 minutes)
   (includes 1-2 minutes clean-up time)
D. Free-Choice Activity (Remaining time)

Session #3
A. Preparation (30 seconds)
B. Mirror Activities (6-9 minutes)
   1. Activation (2-3 minutes)
2. Mirroring (1-2 minutes)
3. Body referencing (3-4 minutes)

C. Easel-Painting--Introduction (15 minutes)
D. Free-Choice Activity (Remaining time)

Session #4
A. Preparation (30 seconds)
B. Mirror Activities (5 minutes, approximately)
   1. Activation (1-2 minutes)
   2. Mirroring (1-2 minutes)
   3. Body referencing (1-2 minutes)
C. Easel Painting (7-10 minutes)
D. Dramatic Play with Miniature Life Toys (10 minutes approximately)
E. Free-Choice Activity (Remaining time)

Session #5
A. Preparation (30 seconds)
B. Mirror Activities (approximately 5 minutes)
   1. Activation (1-2 minutes)
   2. Mirroring (1-2 minutes)
   3. Body referencing (1-2 minutes)
C. Dramatic Play with Miniature Life Toys (10-15 minutes)
D. Play-Doh (5-10 minutes)
E. Free-Choice Activity (Remaining time)
Session #6
A. Preparation (30 seconds) (Includes reminder that this is the last individual session—Next three turns will be in triads)
B. Mirror Activities (approximately 5 minutes)
   1. Activation (2 minutes)
   2. Mirroring (1-2 minutes)
   3. Body referencing (1-2 minutes)
C. Dramatic Play with Miniature Life Toys (approximately 15 minutes)
D. Free-Choice Activity (Remaining time)

Session #7
A. Preparation (5 minutes approximately) (Discussion of physical changes in play room and new procedures to be followed)
B. Activation (2 minutes)
   Body referencing (1 minute)
C. Description of Theme-Situation for this situation (3 minutes)
   (Present Prop Box — See page 50 for Pet Store theme)
D. Socio-Dramatic Play (Theme Enactment) (Remaining time)

Session #8
A. Preparation (2 minutes)
B. Activation and Body Referencing (2-3 minutes)
C. Present Theme and Prop Box for Session #9 (Circus—See page 55) (2-3 minutes)
D. Socio-Dramatic Play (Theme Enactment) (Remaining time)
Session #9

A. Preparation (2 minutes)

B. Activation and Body Referencing (2-3 minutes)

C. Present Theme and Prop Box for Session #9 (Circus—See page 54) (2-3 minutes)

D. Socio-Dramatic Play (Theme Enactment) (Remaining Time)
Transitions To and From the Classroom Between Sessions

Bringing the Subject to the Playroom. For each session, approach the scheduled child in the classroom in the following manner: "______, it's your turn to come to the special playroom. You need to tell Miss X (teacher) where you're going." Assist the child in informing the teacher that he is leaving the classroom with you. Escort the child to the playroom.

Returning the Subject to the Classroom After a Play Session. At the conclusion of each session, escort the child back to the classroom and assist him in informing Miss X that he is back. Help the child become re-integrated into classroom activity or wait until the teacher has an opportunity to do so before leaving the classroom or taking another child for a treatment session.

Introducing the Subject to the Playroom

At the beginning of the first session, the subject will need to be familiarized with the contents of the playroom as well as the procedures that will be regularly observed.

Playroom Contents. On the way into the playroom, say something like: "Well, ______, you're finally getting to see this "special playroom" we've been talking about!" Let the child have a moment to orient himself after you've entered the playroom. Then systematically point out the playroom contents in the following manner: "We have quite a few toys to play with in here, but before we take a look at them, I want to show you something up here on this desk." Draw the child's attention to the tape recorder and the kitchen timer. "This is a tape recorder. Do you know what tape recorder's are for?" (Explain if
Everytime you come, the first thing we'll do is turn on the tape recorder. I'll say your name in it, then I'll say what day today is. Then I'll say how many turns you've had in the playroom. You'll get 6 turns to come all by yourself. Then after that, I'll choose 2 friends to come with you a couple more times."

"The next thing I want to show you is this timer. A timer is like a little clock. We put the arrow on 25 like this (demonstrate setting the timer for 25 minutes). The timer will tick very quietly and the arrow will go backwards until it reaches zero. When it gets to zero, it will go "ding". That means it's time to clean up and go back to the classroom to see Miss X and the other children. You can try to set it now."

Assist the child as needed. "This will be your job every time we come play in here from now on."

"Now let's have a look at all the play things. Here is a mirror. Each time you come to the playroom, we'll sit on the floor together and play some games in front of the mirror. When we're done playing games in front of the mirror, I'll choose which toys we'll play with first. After that, you can choose what you want to play with next."

"This is the painting and coloring table. Have you ever played with finger paints before?" Make an appropriate response to the child's answer. "Why do you suppose they're called finger paints?" Assist the child in saying that we use fingers or reinforce his response, whichever is appropriate. "We have four big bowls of finger paints--red, yellow, blue and green." The bowls should be uncovered so that the child can look inside to see the different colors and the large amounts. "Here is the paper we use for all our painting. There's a big bunch, isn't there!" The child needs to know that he can have as much paint and paper as he
needs.

"These are the jars of paint for brush painting, and these are the brushes we'll be using." The jars of paint should also be uncapped so that the child can see the quantity available and the brilliant colors. "Sometimes we'll paint with the paper right down on the table like this (demonstrate), and sometimes we'll put the paper up on the easel" (point out the easel with an attached sheet of paper). "I've put plastic on the table and on the floor so we don't have to worry about spilling accidents. And we each have a paint smock--this one is for you, and this one is mine" (point them both out).

"If you'd like, sometimes, you can color, too. Here is a big box of new crayons. You can color right up here on the table or else on the floor."

"Over here on the floor, there are 4 cans of brand new play-doh--red, yellow, blue and white. And here is the board you can use to roll it, punch it, "make pancakes" out of it, or whatever you feel like doing with it." Play-doh containers should be open so that the child can see their contents.

"There are quite a few toys over here" (pointing to miniature life toys on the floor). "This box is full of blocks for you to build with." Let the child explore the different shapes and sizes if he so chooses. "And here is a doll family--a mommy, a daddy, a little boy, a little girl, and a tiny baby." Allow the child to manipulate them briefly if he wants to, but reserve play with them for later by saying: "You'll get to play with them very soon, maybe even today if we have time."

"And there are a whole lot of animals here--some of them live in
the zoo (or in the wilderness), and some of them live on the farm."
Help the child identify the animals by name if he seems to need to do
that. "Later on, you'll get a chance to make up stories about these
animals and about the dolls."

"Here is some doll furniture. Later on, you'll get a chance to make
a house and make the dolls live in it!" Point out some of the individual
furniture items and allow a moment or two for manipulation and explora-
tion of the items if the child seems to want to do that.

"Now it's time for us to play games in front of the mirror."

Preparation at the Beginning of Each Session

The Introduction to the Playroom (pages 4 - 7 in this manual) will
serve as the preparation for Session #1. During subsequent sessions,
the procedure will be considerably briefer and simpler.

At the beginning of the second session, refresh the child's memory
with regard to the play contents of the playroom and the procedures.

"Now it's time for me to turn on the tape recorder." Record the child's
first name, session #2, and the day's date. Do this in a playful manner
so that the child can appreciate what you're doing. "Now it's your turn
to set the timer at 25." Provide assistance as needed. "Do you remem-
ber all the things you'll be able to play with in here?" Assist the
child in naming types of play materials--briefly. "We'll start with
mirror games. Later we'll do more finger painting and then you can
choose what you want to play with next."

At the beginning of the third and fourth sessions, simply turn on
the tape recorder as you enter the room, enter the appropriate
information, and then hand the child the timer. Keep this preparation
time as brief as possible. "After we play mirror games, we'll play (name
the activity), and then after that you can choose what you would like to
play with.

For the 5th session, follow the same procedure and add that "Next
time you come will be the last time you come alone. After that you'll
come with _____ and _____ a few more times."

Follow the same procedure for the 6th session, but add the follow­
ing: "_____, did you know that you've already had 5 turns! They go
by fast, don't they. Next time you come, _____ and _____ will be
coming with you!" State this with enthusiasm to help facilitate the
transition. Some children may not be overjoyed at having to share this
time with other children. Add that there will be different kinds of
playthings in here next time. "I'll show them to you and _____ and
_____ next week when you all come."

In preparation for Session #7, do something like the following:
"Well, things are a bit changed in here, aren't they!" Allow the child­
ren time to respond. "We've taken out all the other toys because we have
some different ones to play with today. I'll be showing you those toys
in a few minutes. Before we do that, let's sit down on the floor and
play a couple of games." Conduct group activation and body referencing.

Preparation for session #8 should be a bit briefer than for the
previous session. Simply remind them about what they did last time, and
then indicate that "We'll be doing a different story today, and we'll be
using a different box of special toys."

Begin the 9th session with a comment such as "Wow, it's already the
last time we'll be coming to play together. It certainly went by fast." Give them time to respond to this and provide empathic responses to their reactions—e.g., "You wish we could keep coming here a lot more times." "I see that." "It's disappointing when fun things have to end." You may need to explain that some other children have been waiting to have their turn, or some other appropriate and honest explanation.

**Mirror Activities**

Mirror activities are those preliminary experiences with which every treatment A play session should be initiated. They are grouped together because they share common objectives and because they are "performed" in front of a mirror to focus the child's attention on himself, the F, and the activities. The general purposes of the mirror activities are:

(a) to continue to build on the trusting relationship between the child and F through enjoyable mutual activities that are conducive to natural physical contact—e.g., hugging.

(b) to direct the child's attention to these activities and to those that follow.

(c) to establish a playful set

(d) to give the child an opportunity to experience his senses and his body as his own and as capable of giving him enjoyment.

(e) to give the child an opportunity to effect changes in the behavior of significant others—i.e., to experience himself as a person capable of "being a causative agent".

The 3 specific types of mirror activities used here are labelled: (1) activation, (2) "mirroring", and (3) body awareness.
Activation

Objectives

This activity is designed to facilitate objectives (a) through (d) above, with emphasis on (b) and (c), focusing attention and establishing a playful set, respectively.

Materials and Equipment

(a) Mirror, ideally full length, free-standing, and moveable, but at least large enough to simultaneously reflect the images of both F and the child.

(b) Supply of chocolate-coated candies (M & M's) "hidden" behind the mirror.

Time

The time necessary to complete this and other mirror activities may vary widely with responses of the particular child. In general, however, expect that activation will take about 3 minutes during earlier sessions and perhaps less as the child acclimates. You may notice, however, that the activity and the routine it represents assume an importance all their own to the child; hence the child may insist on prolonging the activity simply because it has acquired entertainment value and has become part of an expected routine.

Procedures

1. "Let's start out right here on the floor in front of the mirror. We need to be able to see both you and me in the mirror. Would you like to sit right here on my lap or would you like to sit beside me?"

Note: You're only offering 2 choices, intentionally. You want to establish a close physical, affectional relationship with the
child, so the physical contact or proximity here is essential. It also contributes to the quality of the activation experiences.

2. "There we are, ______ (child's name) and ______ (F's name)"—this will help draw the child's attention to his own and to your reflection.

3. Reach behind mirror, take 1 candy and say: "Vroom, vroom......here comes a jet airplane!" As you say this, "fly" the candy through the air. Then say "Coming in for a landing!" and "land" the candy in your own mouth.

4. Without further comment, get another candy and repeat the process, but "land" the "airplane" in the child's mouth. If the child does not realize that he has to open his mouth, say "This jet wants to land in your airport" and point to the child's mouth.

5. Repeat steps 3 and 4 a couple of times, "landing" mostly in the child's mouth but occasionally in your own to maintain the child's attention.

6. Comment: "Who knows what we'll find behind the mirror next time we come!" Maybe more airplanes! Maybe something else!" Build expectations.

7. Throughout this (and other) activity (s), the child may be making comments. By all means, respond to these warmly. You may have to deviate a bit from this procedural sequence; try to keep variations comparable to this suggested sequence, however, so that the objectives are achieved and standardization is maintained.

8. For subsequent play sessions, vary the imaginative content for each activation session (but retain a comparable procedural sequence)--
e.g., the candies can become "motorcycles, racing cars, bees that want to give honey, chickens, rabbits, birds; etc. --.

Mirroring

Objectives

This activity is designed to facilitate objectives (a) through (e) above, with emphasis on (e) experiencing oneself as a person capable of being a(n) (interpersonal) causative agent.

Materials and Equipment

(a) Mirror

(b) Repertoire of easy "faces" and gestures to make

Time

Variable, but probably approximately 3 minutes during initial sessions, and then diminishing during later sessions.

Procedures

1. "Now we're going to play another game. I'm going to be doing something with my face. I want you to try to guess what I'm doing."

2. Begin to "mirror" (mimic) the child's facial expressions. Some children may react a bit adversely to this--i.e., they may begin to feel that you are making fun of them. If that should occur, reflect the child's feelings ("You were feeling sad--or angry--because you thought I wasn't being very nice--or that I was making fun"). It may also be sufficient to say "Wow! You can make me do things! You made me make those faces!" Sound impressed.

3. "Now it's my turn--let's see if I can make you make some faces."

   Execute some simple and obvious facial expression changes.

4. Reinforce the child for "mirroring" you. If the child refuses (and
some children might): "You don't feel like doing what I do right
this minute. You would rather make me do things. OK, then, it's
your turn." If the child still refuses, say: "You'd rather do this
next time. You can think of all sorts of things to make me do
next time!" Or, if it is a playful kind of refusal on the child's
part, you may choose to mimic his "refusing" facial expression and
comment that he was able to make you make "that" face!

5. End this activity by having the child be the causative agent--i.e.,
he makes faces that you mimic. Then say: "You can really make me
make lots of faces" or "some funny (or scary) faces". "You can
really make me do things!" Sound pleasantly impressed.

Body Awareness

Objectives

This set of experiences has for objectives (a) through (d) above
with emphasis on (d), experiencing one's senses and body as one's own
and as capable of giving enjoyment.

Materials and Equipment

(a) Mirror

(b) Repertoire of Finger plays and Body Games

I Had A Little Pig

I had a little pig (closed fist, thumb sticking upward)
And I fed him in a trough (cup other hand, bring thumb to trough)
He got so big and fat (make large circle with arms)
That his tail popped off! (clap hands together on "off")
So I got me a hammer (pound 1 closed fist on the other)
And I got me a nail
And I made that pig
A wooden tail.
Ten Little Firemen

Ten little firemen (lay fingers of both hands flat on floor) 
Sleeping in a row. 
"Ding, dong" goes the bell (pull on imaginary bell) 
And down the pole they go (hands slide down imaginary pole by 
exchanging 1 from top to bottom, etc.) 
Riding on the engine 
"Whee---ohhhhh!" (siren sounds, hands cupped around mouth) 
Putting out the fires (spray imaginary hoses around with both hands) 
Then home so slow (fingers walk slowly across the floor) 
And back to bed again 
All in a row (lay all fingers down flat on floor, slowly). 

Hands on Shoulders (to the tune of Skip to My Lou, or recited) 

Hands on shoulders 
Hands on knees 
Hands behind you if you please 
Touch your shoulders 
Touch your nose 
Now your hair 
And now your toes. 

Hands up high 
In the air 
Down at your sides 
Now touch your hair 
Touch your hair 
As before 
Now clap your hands 
One, two, three, four!

Note: These particular finger plays were selected for their ease of 
learning and their usual appeal. In order to standardize proce-
dures for this project, it will be necessary for you to make use 
of these. However, almost any finger play could be substituted 
here for general use of this intervention. 

Time 

Variable--will usually be of considerably briefer duration during 
later sessions since the children have already "learned" the finger 
plays by then.
Procedures

1. For session #1, say: "Let's sit right here facing the mirror. I'm going to play a new little game. You can try to play the game with me if you want to, or you can just watch me this first time. That's up to you.

2. Do "I Had a Little Pig", slowly, with very clear gestures and pronounced rhythm.

3. Explain what a "trough" is.

4. "OK, this time you use your fingers and hands and arms to play this game with me. I'll say the words. You don't have to say the words this time. Let's just try to learn the body actions for today."

5. Repeat the finger play, slowing down to permit the child to mimic your actions.

6. Reinforce the child's attempts and show enthusiasm for this game.

7. "We'll play this game again next time you come."

8. Ask the child to stand up in front of the mirror with you.

9. "This game is a song. I'll sing it and do the motions with my body. You can try doing some of the motions along with me if you want."

10. Sing and gesture to Hands on Shoulders.

11. Reinforce the child's attempts, or if he simply watched, suggest that he can do the game with you next time.

12. "We'll do this game again next time you come!"

13. For sessions 2 and 3, repeat the above sequence making appropriate changes such as "Do you remember this game?" or "You know this game really well, now!" etc.
14. For session #4, introduce a new finger play: Ten Little Firemen, using the same procedure followed earlier for introducing the other two body awareness games.

15. Try to do "Hands on Shoulders" at least once every session.

16. For the 5th and 6th sessions, have the child select the games—list his possible choices from the 3 games you have already introduced.

17. Be sure to reinforce the child's efforts frequently.

**Finger Painting**

The finger painting experiences described below will take place over at least two sessions. Usually, you would take as many sessions as necessary to achieve desired objectives; however, experimental conditions require standardization, so finger painting is scheduled for sessions 1 and 2. During later sessions, children may choose to finger paint as their free-choice activity. Note: Remember that intervention continues throughout each play session regardless of whether the activity is self- or facilitator-selected.

**Materials and Equipment**

(a) 4 large tubs of fresh, clean finger paints—red, blue, green and yellow

(b) tongue depressors for stirring and scooping paints

(c) large supply of paper

(d) protective smocks—2

(e) paper towels

**Objectives**

To minimize redundancy, the multiple objectives will all be listed here together.
1. "Turning Out" Objectives

a. Experiment with the Medium
   - use variety of colors
   - use "different tools"—i.e., several fingers, hands, nails, etc.
   - make "different strokes" in the paint—e.g., swirls, nail
     scratchings, deep gouges, hand prints, etc.
   - use full painting surface (space) provided
   - explore the sensory qualities of the paint—e.g., smoothness,
     glossiness, spreadability, gooeyness, etc.
   - explore possibilities of thick versus thin paint

b. Become Accustomed to/Comfortable With "Messing"
   - willing to have paint on hands
   - can have minor "accidents" without being upset (spills, splatters, mixed paints, etc.)
   - capable of delaying clean-up until end of finger painting time

c. Introduce Imaginative ("Pretend" or "Make-Believe") Content
   - e.g., paint on fingers and hands becomes "rings" or "gloves"
   - e.g., painted hand may become a puppet and pretend episode may
     be generated from this
   - e.g., make-believe (representational) content—road, spaghetti,
     curly hair, flowers, grass, animal paw prints, etc.

d. Express enjoyment of finger paints and painting experience
   - hum and/or sing
   - smile and/or laugh
   - verbal expressions of enjoyment—e.g., "This is fun!" "Can we
     do this again?" "This is icky, wicky, sticky, gooey,
     phooey!" "I'm gonna ask my mommy if I can have finger
     paints at my house."

2. Impulse Control Objectives

a. Control Attention
   - attend to this activity in a room where several other kinds of
     appealing play things are clearly visible
   - resist other distractions -- noises, people walking through, etc.

b. Control Impulsive ("Aggressive", "Wild") Play with the Medium
   - avoid intentionally making unacceptably large messes such as
     getting paint all over own body, going clearly beyond the
     paper boundaries, throwing paint, splashing paint, etc.
c. Control and Organize Make-Believe Content Generated

- prevent any make-believe characters from becoming excessively "wild", "out-of-control"
- relate make-believe in 1 part of the painting to other parts
- develop a make-believe story around some make-believe element generated during painting

Procedures

1. "Now let's put our painting smocks on. We're going to finger paint."

2. In general, focus on objectives a and c first. Then, focus on objectives b and d. You may be working toward all the objectives at once, of course, but the child must be trying out the medium and overcoming fears of messiness before he can do much organized representational painting and before he can express much enjoyment of the process.

3. Note the child's response to step #1. It will guide your intervention. If the child seems already "turned out", you may want to emphasize "control" objectives. If the child is quite hesitant about using the paints, however, you'll have to "turn him out" first. If the child readily becomes engaged in the medium, note the specific responses he has to the finger paints. If he rapidly runs out of "things to do with the paints", use intervention behaviors like those listed under the "Lacking Repertoire" continuum on page 26. If, however, the child seems concerned over the messiness of the medium, use intervention behaviors such as those listed on the "Concerned About Messing" continuum on page 27.

4. On the following pages (26-29) you will find the 4 continuua
Continuum #1: FINGER PAINTING
FOR THE CHILD WITH A LIMITED REPERTOIRE OF
FINGER PAINTING BEHAVIORS

<table>
<thead>
<tr>
<th>DIRECTIVE</th>
<th>NON-DIRECTIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;I'll help you get started. Sit on my lap. Put your hands on top of mine.&quot;</td>
<td>&quot;You're having trouble thinking of things to do with the finger paint.&quot;</td>
</tr>
<tr>
<td>(Then paint slowly and gently with child's hands on top of yours.)</td>
<td>&quot;Sometimes it's hard to get started.&quot;</td>
</tr>
<tr>
<td>Apply suggestions to the right to yourself as you paint (e.g., &quot;I feel like using both hands&quot;).</td>
<td>&quot;Hand prints are fun to make too.&quot;</td>
</tr>
<tr>
<td>Gradually allow the child to take over the painting as you hold him on your lap.</td>
<td>&quot;I like it when the paper is all covered with paint.&quot;</td>
</tr>
<tr>
<td>If this fails, do a few moments of mirroring and body referencing. Then try painting again.</td>
<td>&quot;I'd like to use both hands now.&quot;</td>
</tr>
<tr>
<td>&quot;I'd like you to use both hands now.&quot;</td>
<td>&quot;I wonder what would happen if...&quot;</td>
</tr>
<tr>
<td>&quot;Your left hand feels cold. It wants a red coat on it. You need to put a red coat on it.&quot;</td>
<td>&quot;Can you find another color under the green?&quot;</td>
</tr>
<tr>
<td>(meaning put red paint on it)</td>
<td>&quot;I like using my pinkie&quot; (or knuckles, or all my fingers, etc.)?</td>
</tr>
<tr>
<td>&quot;I'd like to see if 'Pointer' can make spaghetti tool!&quot;</td>
<td>&quot;Put another color on top of this one?&quot;</td>
</tr>
<tr>
<td>&quot;Can you find another color under the green?&quot;</td>
<td>&quot;Made swirls in the paint?&quot;</td>
</tr>
<tr>
<td>&quot;I wonder what would happen if...&quot;</td>
<td>&quot;You're having trouble thinking of things to do with the finger paint.&quot;</td>
</tr>
<tr>
<td>- we scratched with our nails?</td>
<td>&quot;Sometimes it's hard to get started.&quot;</td>
</tr>
<tr>
<td>- used all our fingers?</td>
<td>&quot;Sometimes it's hard to get started.&quot;</td>
</tr>
<tr>
<td>- put another color on top of this one?</td>
<td>&quot;Sometimes it's hard to get started.&quot;</td>
</tr>
<tr>
<td>- made swirls in the paint?</td>
<td>&quot;Sometimes it's hard to get started.&quot;</td>
</tr>
</tbody>
</table>
### Continuum 12: FINGER PAINTING

**FOR THE CHILD CONCERNED ABOUT MAKING A MESS**

<table>
<thead>
<tr>
<th>DIRECTIVE</th>
<th>NON-DIRECTIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wash your own hands (F).</td>
<td>Mod</td>
</tr>
<tr>
<td>Wash paint off the child's hands.</td>
<td>Smile</td>
</tr>
<tr>
<td>Lead the child to the bathroom and prepare him to wash his own hands.</td>
<td>&quot;You'd like to wipe that paint off your elbow.&quot;</td>
</tr>
<tr>
<td>Offer the child paper towels to wipe paint off.</td>
<td>&quot;You're afraid you're mother might be angry about this paint.&quot;</td>
</tr>
<tr>
<td>&quot;The nice thing about finger paints is that they wash right off.&quot;</td>
<td>&quot;You're worried that it won't wash off.&quot;</td>
</tr>
<tr>
<td>&quot;When we're all done painting, we'll go in the bathroom and wash all the paint off your hands.&quot;</td>
<td>&quot;It's OK, it comes right off.&quot;</td>
</tr>
</tbody>
</table>
Continuum #3: Finger Painting

For the Child Lacking Control of the Finger Paints

**Directive**

- "Right now I want you to watch how I do it." (specify what you're doing).
- "Then you can have a chance to try it again."
- If this procedure fails, do a few minutes of mirroring and body referencing. Then try it again.

**Non-Directive**

- "You seem to be having trouble controlling the paints. Do you want me to help you?" (non-punitive)
- "That seems too hard for you to do right now. I'll help." (gently restrain or guide hands).
- "Your monster is too scary. You can make him be friendly now. I'll help you." (gently restrain or guide movements).
- "You're having trouble making your monster be friendly. You need to make him calm down."
- "You need to stay on the paper."
- "I can't let you splatter the paint because it messes up the walls."
- "I want you to control the red. It's getting too wild."
- "Can you keep the paints from splattering?"
- "Can you keep the paints only on the paper?"
- "Are these paints too thin? Is that why they're going off the paper?"
- "Sometimes it's hard to keep the paints under control or to keep the paints on the paper or to keep from splattering."
- "The paint is not for eating."

Make it very apparent that your full attention is with the child, that you are keenly aware of what he is doing.
**Continuum #4: FINGER PAINTING**

**VERBAL EXPRESSIONS OF ENJOYMENT**

<table>
<thead>
<tr>
<th>DIRECTIVE</th>
<th>NON-DIRECTIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use this type of intervention only when the child shows non-verbal interest or enjoyment and when you can be fairly sure that he feels positively about the painting experience. Use this if the child seems only to lack the learned behaviors for expressing enjoyment.</td>
<td>Questions or comments made at this middle level of structure are likely to elicit negative responses from preschool children. It is best to avoid them.</td>
</tr>
<tr>
<td>&quot;This is fun!&quot;</td>
<td>Smile</td>
</tr>
<tr>
<td>&quot;I like this gooey, icky, sticky wicky stuff...&quot;</td>
<td>Nod</td>
</tr>
<tr>
<td>&quot;This is so smooth.&quot;</td>
<td>Verbally reinforce the child's expressions of enjoyment (e.g., &quot;uh-huh&quot;, or &quot;me too&quot; if appropriate).</td>
</tr>
<tr>
<td>&quot;I like to close my eyes and squish the paint in my hands.&quot;</td>
<td></td>
</tr>
<tr>
<td>Sing or hum while you paint.</td>
<td></td>
</tr>
</tbody>
</table>
describing possible F behaviors at various levels of structure or behaviors to use with finger paints, one for the child who is overly concerned about messing, one for the child who does not know how to express enjoyment of the play medium or the process, and one for the child who demonstrates loss (or lack) of impulse control (becomes "wild") when using the paints. These sample behaviors are not intended to be exhaustive. You will be able to think of many more that suit the situation and your personality.

Easel Painting

For purposes of standardization, the easel painting experiences described below will essentially take place over sessions 2 and 3. Remember that children may select easel painting at any other free choice time, and if they do so, intervention should also proceed during those times according to the general procedures presented below.

Materials and Equipment

(a) 4 jars of paints (red, blue, green, yellow)
(b) brushes (4)
(c) ample supply of paper
(d) painting smocks (2)
(e) paper towels
(f) paper plates
(g) thumb tacks
(h) easel
Objectives

The major objectives to be attained through easel painting experiences are the same as for finger painting. Differences result only from the differences in the 2 play media.

1. "Turning Out" Objectives

a. Experiments with the Medium
   - uses variety of colors
   - uses variety of brush strokes
   - uses full painting surface provided
   - explores possibilities of thick vs thin paints
   - experiments with dripping paint

b. Becomes Accustomed to/Comfortable with "Messing"
   - accepts spills on hands, table without fuss
   - incorporates drips into the form of the painting
   - intentionally creates drips for effect

c. Introduces Imaginative (Make-Believe) Content
   - labels a painting after completion
   - labels a painting in process
   - plans to paint a verbally specified product

d. Expresses enjoyment of easel paints and easel painting Process
   - hums and sings
   - smiles, laughs
   - selects finger paints as free choice activity
   - verbally expresses enjoyment
     
     e.g., "This is fun." "I like this blue the best." "Can I paint again when I choose?" "This red is so shiney." "Can you show me how to make these paints so I can do it at my house?"

2. Impulse Control Objectives

a. Controls Attention
   - attends to this activity in a room where several other kinds of appealing play things are clearly visible
   - resists other distractions--noises, people walking through, telephones ringing, etc.
b. Controls Impulsive ("aggressive", "wild") Play with the Medium
- avoids intentionally making unacceptably large messes such as getting paint all over own body, going clearly beyond the paper boundaries, throwing or splashing paint, etc.
- responds to attempts to help him control his painting behavior
- avoids destroying the final form

c. Controls and Organizes Make-Believe Content Generated
- prevents any make-believe characters from becoming excessively "wild", "out-of-control"
- relates make-believe in 1 part of the painting to other parts
- develops a make-believe story around some make-believe element generated during painting

Procedures

As with finger painting, several continuua describing sample intervention behaviors are offered on pages 33 to 36. The circumstances under which you would select one over the other are the same (or very similar) to those described under finger painting (pages 23-30).

1. Say, "Today, instead of painting with our fingers, we're going to use brushes to paint."
2. "We need to put on our smocks."
3. Initially, to avoid problems with drips and to clearly define painting surface boundaries, brush painting will be done on a paper plate with a raised edge. Further, the plate should be placed flat on the table as opposed to on the easel.
4. Point out to the child the materials he has available to paint with and then indicate that he may start. Observe carefully his response to determine the nature of your intervention
Continuum II: EASEL PAINTING
FOR THE CHILD WITH A LIMITED REPERTOIRE OF EASEL PAINTING BEHAVIORS

**DIRECTIVE**

"You're having trouble trying these paints out. I'll help you."

Place child in your lap, have child hold onto your brush along with you, and apply suggestions to the right to yourself as you model.

Gradually allow the child to take over the painting. You may need to continue to hold him for a while as he paints.

**NON-DIRECTIVE**

"I'd like to see you use all the colors.
- use only the tip of the brush
- fill all the spaces up
- try mixing the paints on the paper
- use a lot more paint
- make little dots with the tip of your brush
- make big shapes with the side of the brush"

"I wonder what would happen if you
- used all the colors?
- used only the tip of the brush?
- put a lot of paint on the paper?
- covered the whole paper?"

"Sometimes I just choose my favorite color and fill up the paper with it."

"Sometimes I like to make shapes of lines out of all the colors."

"Sometimes I even like to mix the colors up on the paper to see what new colors they make."

"When I use the tip of the brush, I can make..."

"And when I put the brush sideways, it makes..."
DIRECTIVE

Model removing excess paint from brush on edge of jar.

Model incorporating drips into painting.

(It may or may not be necessary to verbalize what you're doing.)

"I'll show you how easily it comes off your hands."

Wash your own hands. Wash paint off the child's hands.

If these procedures fail, do a few minutes of mirroring and body referencing. Then try again.

NON-DIRECTIVE

"The paint is too thin for you today. I'll make it thicker."

"We can wipe the drips with the brush so they won't get off the paper."

"You're a little worried that the paint will splash on your clothes."

"You're afraid your mommy wouldn't like that."

"Nice thing about these paints is that they wash right off."

"That's why we wear smocks, so paint won't get on our clothes."

"When we're done painting we'll go in the bathroom and wash them right off."

"When we take the extra paint off the brush before we paint, it doesn't drip as much."

"You'd like to wipe that paint off your finger right now."

"These paints wash right off, just like the finger paints."

"Nice thing about these paints is that they wash right off."

"That's why we wear smocks, so paint won't get on our clothes."

"When we take the extra paint off the brush before we paint, it doesn't drip as much."

"You'd like to wipe that paint off your finger right now."

"These paints wash right off, just like the finger paints."
### Continuum 13: Easel Painting

**For the Child Lacking Impulse Control**

<table>
<thead>
<tr>
<th>Directive</th>
<th>Non-Directive</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;You'll need to watch how I do it.&quot; (Then model)</td>
<td>Make it very apparent that your attention is fully with the child, that you are keenly aware of what he's doing.</td>
</tr>
<tr>
<td>&quot;This is what I mean&quot; (then model).</td>
<td></td>
</tr>
<tr>
<td>&quot;Put your brush down and watch for a minute. I'll show you how to make tigers friendly. -drips go back on the paper. -the extra paint stay in the jar.&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;That seems awfully hard to do right now. I'll show you how.&quot; (Gently restrain)</td>
<td></td>
</tr>
<tr>
<td>&quot;That tiger is just too big for you to control all by yourself. I'll help you quiet him down.&quot; (Gently restrain)</td>
<td></td>
</tr>
<tr>
<td>If these methods fail, do a few moments of mirroring and body referencing and then try again.</td>
<td></td>
</tr>
<tr>
<td>&quot;You're really having trouble with those paints. I'll help you.&quot; (Gently restrain while the child continues the activity himself.)</td>
<td></td>
</tr>
<tr>
<td>&quot;You need to stay on the paper.&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;I can't let you splatter paint on the walls.&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;You need to control the paints.&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;I want you to take the extra paint off the brush.&quot; (Gently restrain)</td>
<td></td>
</tr>
<tr>
<td>&quot;Try brushing the paint drips. They might look nice on your paper.&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;See if you can make a lot of drips — like red rain!&quot; (Gently restrain)</td>
<td></td>
</tr>
<tr>
<td>&quot;Your tiger is scaring the children. You have to make him friendly now.&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Can you keep the paints under control?&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Can you keep the paints from splattering?&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Can you keep the paints on the paper?&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Can you take the extra paint off the brush?&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Do you want me to make the paints thicker so they don't drip?&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Can you make the &quot;mice&quot; run more quietly so they don't splash the paint?&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Sometimes it's hard to keep the paints under control.&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Sometimes if there's too much paint on the brush it drips.&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Your dragon is very scary.&quot;</td>
<td></td>
</tr>
</tbody>
</table>
Continuum 14: EASEL PAINTING

EXPRESSIONS OF ENJOYMENT

DIRECTIVE

"This is fun."
Sing or hum.
"I wish I could do this for a long time."
"I like to make anything I want."

(Use this type of intervention only when you safely determine that the child's reaction to the activity is positive and that he is only hesitant about expressing his enjoyment or does not yet have the verbal behaviors for doing so.)

NON-DIRECTIVE

Comments, questions made at this middle level of structure are likely to elicit negative responses from preschool children. It is best to avoid them.

Smile
Nod
If child expresses enjoyment, say "me too" if appropriate.
 Generally show approval and encouragement.
(see page 18 under finger painting).

5. When the child demonstrates that he can manage the paper plate on the table (he may want to paint several plates before he's ready), let him paint on paper (no raised edges—boundaries less clearly defined).

6. When the child demonstrates that he can manage both the plate and the paper when they are flat on the table, thumb tack a paper plate to the easel and have the child paint on it. The raised boundaries will be very clear so that the child should be fairly free to deal with problems resulting from the force of gravity—specifically, paint drips.

7. When the child can manage easel painting on the paper plate, tack plain paper up onto the easel. This gradual progression should make it possible for the child to both define surface boundaries and learn to manage dripping paints.

8. Now you should be able to focus on the other objectives using sample behaviors provided in the continuua. You've probably already worked toward some of these objectives to some extent. Now that the child has dealt with boundaries and drips, it is appropriate for you to emphasize the other objectives.

**Play-Doh**

Play-doh is a fluid material; however, it is considerably less fluid than are finger and easel paints. Although its form can be readily transformed, it can also maintain a static form. Thus, it
poses slightly different problems for the child than finger paints
and easel paints.

As with the paints, exploration of sensory and functional
properties are significant tasks in using play-doh; however, the
lesser degree of fluidity of play-doh permits more emphasis on
static forms or end products. Representation, then, and the pos­sibility of incorporating play-doh products into dramatic play
episodes are likely to emerge.

Note that no supplementary tools are provided (e.g., no scissors,
cookie cutters, rolling pins). This omission is intended to stim­ulate sensory exploration through greater direct contact with the
medium.

Materials and Equipment
(a) 4 cans fresh play-doh (1 each white, red, blue and yellow)
(b) 1 clay board
(c) plastic drop cloths and newspapers to protect carpeting

Objectives
1. "Turning Out" Objectives
   a1. Experiments with the Medium
      - punches, pokes, pulls, rolls, bounces, squeezes it
      - smells it
      - feels its smoothness
      - makes impressions in it
      - combines, mixes colors
      - accepts absence of supplementary tools and necessity for
         using hands to manipulate it

   b. Introduces Representation
      - creates forms (end products) with assigned labels
      - generates make-believe situations or episodes around the
        labelled form(s)
- relates the labelled forms to one another in a make-believe episode
- combines labelled forms with other play media, e.g., dramatic play

c. Expresses Enjoyment of the Play-Doh Medium
- selects play-doh as a free-choice activity
- hums, sings
- smiles, laughs
- verbally expresses enjoyment

2. Control Objectives

a. Controls Attention
- attends to play-doh activity in a room where several other kinds of appealing play materials are clearly visible
- resists other distractions (noises, people walking through the room, etc.)

b. Controls Impulsive ("Aggressive", "Wild") Play with Play-Doh
- avoids eating it
- avoids mixing it in hair, on clothes, etc.
- avoids throwing it
- avoids going beyond newspaper or drop-cloth boundaries
- preserves end products

c. Controls and Organizes Make-Believe Content Generated
- prevent any make-believe characters from becoming excessively "wild", "out-of-control"
- relate make-believe in 1 part of the painting to other parts
- develop a make-believe story around some make-believe element generated during painting

Procedures

1. Say: "Now it's time for us to play with play-doh."

2. Discuss with the child the following: (a) purpose of the clay-board and protective floor covering (boundaries);
(b) there are a variety of colors;
(c) the fact that he is encouraged to use all the colors
3. "You can start now" (if necessary).

4. Observe the child's reaction to the play-doh to determine your specific intervention(s). Reluctance to become engaged may suggest lack of repertoire or hesitancy about touching this fluid medium. Your observations and some tentative low structure intervention will help you determine more precisely the child's difficulty(s).

5. From here, let information from step #4 guide you in the use of the continua on pages 41 to 44.

Dramatic Play With Miniature Life Toys

The general purpose of intervention in dramatic play is to increase the number and variety of make-believe elements that the child incorporates into his dramatic play episodes.

Materials and Equipment

(a) large set of natural wood architectural table blocks
(b) miniature life doll family (father, mother, girl, boy, and baby -- realistically dressed)
(c) doll house furniture (bathroom, kitchen, bedroom, living room)
(d) wooden zoo animals
(e) wooden farm animals
(f) additional set of building blocks for F
(g) extra miniature life doll family

(Note: (f) and (g) are to be set aside, out of view, and used by the F only when F models dramatic play behavior).
## Continuum #1: PLAY-DOH
### FOR THE CHILD WITH A LIMITED REPertoire OF PLAY-DOH PLAY Behaviors

<table>
<thead>
<tr>
<th>DIRECTIVE</th>
<th>NON-DIRECTIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Watch me and then you can do it too.</em></td>
<td><em>You're not sure how to start this morning.</em></td>
</tr>
<tr>
<td>poke it</td>
<td>Nod</td>
</tr>
<tr>
<td>punch it</td>
<td>Smile</td>
</tr>
<tr>
<td>roll it</td>
<td><em>You're wondering what you could make out of this.</em></td>
</tr>
<tr>
<td>make prints in it</td>
<td><em>Sometimes it's hard to get started.</em></td>
</tr>
<tr>
<td>bounce it</td>
<td><em>It looks good enough to eat but it smells funny</em> (reflection on subject behavior indicating the above reaction).</td>
</tr>
<tr>
<td>make a flat pancake</td>
<td><em>Stop modeling - try mixing this play-doh?</em></td>
</tr>
<tr>
<td>try mixing up the colors</td>
<td><em>It's too hard, I just take a little piece and roll it until it gets soft...</em></td>
</tr>
<tr>
<td>etc.</td>
<td><em>It usually is</em></td>
</tr>
<tr>
<td><em>I wonder if we can make finger prints in this play-doh...</em></td>
<td><em>Usually, I choose my favorite color and try to warm it up in my hands.</em></td>
</tr>
<tr>
<td><em>I wonder what would happen if we mixed some of these colors up together...</em></td>
<td><em>When it's too hard, I just take a little piece and roll it until it gets soft...</em></td>
</tr>
<tr>
<td><em>Did you smell it?</em></td>
<td><em>You're wondering what you could make out of this.</em></td>
</tr>
<tr>
<td><em>Is there something you'd feel like making?</em></td>
<td><em>Stop modeling - try mixing this play-doh?</em></td>
</tr>
<tr>
<td><em>I wonder if this play-doh smells like the finger paints.</em></td>
<td><em>You're not sure how to start this morning.</em></td>
</tr>
<tr>
<td><em>Try making?</em></td>
<td><em>Stop modeling - try mixing this play-doh?</em></td>
</tr>
<tr>
<td><em>Guide the child's hand physically through the play-doh if necessary.</em></td>
<td><em>It usually is</em></td>
</tr>
<tr>
<td><em>If none of the above work, you may need to do a few moments of mirroring and body referencing to reanimate the child. Then try it again.</em></td>
<td><em>Stop modeling - try mixing this play-doh?</em></td>
</tr>
</tbody>
</table>
## Continuum #2: PLAY-DOH
FOR THE CHILD LACKING IMPULSE CONTROL

<table>
<thead>
<tr>
<th>DIRECTIVE</th>
<th>NON-DIRECTIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;You're having a little trouble controlling the play-doh. I'll help you. You watch me:&quot;</td>
<td>Make it obvious to the child that you are watching him carefully and that you are keenly aware of what he's doing (non-verbally).</td>
</tr>
<tr>
<td>Model the appropriate behaviors</td>
<td>&quot;You need to keep the play-doh on the newspapers.&quot;</td>
</tr>
<tr>
<td>or</td>
<td>&quot;Can you control the play-doh by yourself?&quot;</td>
</tr>
<tr>
<td>Physically guide the child through the appropriate behaviors.</td>
<td>&quot;Play-doh is not for eating - not for throwing.&quot;</td>
</tr>
<tr>
<td>Then allow the child to try again on his own.</td>
<td>&quot;The play-doh has to stay on the newspapers.&quot;</td>
</tr>
<tr>
<td>&quot;You need to take those pieces of play-doh off the desk and put them back on the clay-board.&quot;</td>
<td>&quot;You decided not to eat it because it smells funny.&quot;</td>
</tr>
<tr>
<td>&quot;I can't allow you to throw those pieces of play-doh around.&quot;</td>
<td>&quot;You were a little bit tempted to throw those play-doh balls you made.&quot;</td>
</tr>
<tr>
<td>DIRECTIVE</td>
<td>NON-DIRECTIVE</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Model the process of producing a product (with appropriate verbalizations) but do not pressure the child to respond in the same manner.</td>
<td></td>
</tr>
<tr>
<td>&quot;I'm making strawberry shortcake with ice cream on it.&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;This can be a crib for that little baby.&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;I'm making a boat for the children to ride in.&quot;</td>
<td></td>
</tr>
<tr>
<td>Note: Whatever you make should be made very simply so that the child doesn't feel he has to compete with you artistically.</td>
<td></td>
</tr>
<tr>
<td>Do not make any direct suggestions for make-believe—the ideas should be the child's own. The comments to the right are intended to reinforce, support, give the child permission to create a product. They also provide general ideas.</td>
<td></td>
</tr>
<tr>
<td>&quot;Is there something you'd like to make?&quot;</td>
<td>&quot;You can make anything you want out of the play-doh.&quot;</td>
</tr>
<tr>
<td>&quot;Does the baby doll need anything that you could make?&quot;</td>
<td>&quot;You can make something that's more than one color (or all the colors) if you want to.&quot;</td>
</tr>
<tr>
<td>&quot;I wonder if the animals would like some nice soft mud to play in?&quot;</td>
<td>&quot;You don't feel like making anything special right now.&quot;</td>
</tr>
<tr>
<td>&quot;You don't feel like making anything special right now.&quot;</td>
<td>&quot;Sometimes I have trouble getting started too.&quot;</td>
</tr>
<tr>
<td>&quot;You'd like me to help you think of something to make.&quot;</td>
<td>&quot;You'd like me to help you think of something to make.&quot;</td>
</tr>
</tbody>
</table>
### CONTROLLING/ORGANIZING MAKE-BELIEVE CONTENT

<table>
<thead>
<tr>
<th>DIRECTIVE</th>
<th>NON-DIRECTIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;It's too hard for you to control the lion all by yourself today. I'll help you build a cage and place the lion in it—trick the lion into the cage with these cookies we made.&quot;</td>
<td>Make it clear to the child who is not in complete control of the make-believe content he is generating that you are keenly aware of the situation.</td>
</tr>
<tr>
<td>&quot;Your lion is too wild. You need to put him in a cage—control him—call the zoo keeper. Then give him some cookies so he'll calm down.&quot;</td>
<td>&quot;Your Big Bird seems to be getting out of control—or scaring the little baby doll.&quot; etc.</td>
</tr>
<tr>
<td>&quot;Can you make a cage for your lion? He seems to be a little bit too wild.&quot;</td>
<td>&quot;You can make Big Bird sing a soft song to the little birds.&quot; etc.</td>
</tr>
<tr>
<td>&quot;The lion is scaring the children. Can you make him stop doing that?&quot;</td>
<td>&quot;I wonder if the elephant would like to be in a circus with some of the other animals.&quot;</td>
</tr>
<tr>
<td>&quot;I wonder if the Big Bird seems to be getting out of control—or scaring the little baby doll.&quot;</td>
<td>&quot;Dinosaurs can be friendly too.&quot;</td>
</tr>
<tr>
<td>&quot;Oh, the doggie's tail fell off! Is there a doctor (veterinarian) in the house?!&quot;</td>
<td>etc.</td>
</tr>
</tbody>
</table>

It may be necessary to gently restrain the child's rapid motions. If this fails, you may need to do a few moments of mirroring and body referencing. Then try play-doh make-believe again.

*It is especially difficult to provide examples for this type of play behavior because make-believe content can vary so widely. These sample interventions are responses to a few possible situations that might occur. They are offered only as samples and not as the specific responses you should make.
Objectives

1. "Turning Out" Objectives

   a. Constructs "Sets" for Dramatic Play

      - uses blocks, dolls, furniture, animals
      - incorporates play-doh
      - makes use of block storage boxes
      - describes the constructed "sets" or otherwise makes it
clear that the construction(s) will be used for
   a make-believe episode

   b. Generates Make-Believe Content

      - has dolls, animals "act out" make-believe episodes,
        through non-realistic (symbolic) use of the toys
      - uses different voices for different dolls
      - assigns roles to dolls or animals ("This can be ...")
      - creates a temporal set ("Now it's time for ...")
      - uses toys symbolically

2. Controls Make-Believe Content

   - avoids having characters or animals become excessively wild
     or aggressive
   - maintains his identity--does not confuse self with roles he
describes or "play acts"
   - organizes the make-believe content he generates (roles are
     fixed, story has a beginning, middle and end or general
direction, and themes are developed before being dis-
carded or replaced)

3. Controls Attention

   - attend to this activity in a room where several other kinds
     of appealing play things are clearly visible
   - resist other distractions -- noises, people walking through, etc.

4. Express Enjoyment of Dramatic Play Process

   - hums, sings, or has dolls and animals do so
   - laughs, smiles at his dramatic productions
   - selects dramatic play as free-choice activity
   - plays in animated but not "wild" manner
   - verbally expresses enjoyment
Procedures

1. Say: "Now it's time to play with the toys."

2. Remind the child that he is free to play with the blocks, dolls, animals, doll furniture and that he may even want to make things out of play-doh to "go with" his make-believe stories.

3. Allow the child to explore the toys for a moment.

4. Say: "Now I want you to make up a make-believe story with these toys." It may be necessary the first time, to explain further what you mean by that. Say "Use the blocks and the furniture to make something (e.g., a house or a barn) then make the dolls act out a story in the house (or barn)."

5. If necessary, give the child a brief example. Use a common theme with which the child is likely to be very familiar--e.g., "It's morning and the children are just waking up and getting ready for school. What does the mommy say to the children?"

Note: The subject may prefer an entirely different theme. That's fine. Be sure to respond to the child's preferences in that regard.

6. Determine from the child's responses how much structure you need to provide. The child who can't remember things to enact (even when using very familiar thematic situations) may only need questions or suggestions to refresh his memory--e.g., "What do the children do when they get up?" or "The mommy has to ask the children what they want for breakfast."

The child who is reluctant (perhaps self-conscious) about making the dolls talk may need some modelling and then some reinforcement
within their assumed make-believe roles is necessary.

**Triads**

For socio-dramatic play training, subjects will be grouped into fixed triads. According to Wolfgang (1977), the child receiving play training should be grouped with two "star players", (children who already demonstrate socio-dramatic play competencies). For this project, all subjects will be in training and assumed to be at similar stages in their imaginative play development. Therefore, it will not be possible to meet the criterion of placing each child with 2 star players. Instead, the composition of the 3 socio-dramatic play groups/treatment group will be jointly determined by F and the classroom teacher primarily on the basis of social compatibility.

**Materials and Equipment**

For group training sessions (socio-dramatic play), the experimental playroom will be changed in the following manner: All of the materials/equipment from the individual training sessions, with the exception of the mirror, M & M's, and the small table and chairs, will be removed from the room. A large "prop" box with props appropriate for each of the 3 group sessions will be substituted for the removed materials. Props required for each group session are listed under that heading in the session-by-session outlines for sessions 7, 8 and 9, pages 9-10.

**Objectives**

1. "Turning Out" Objectives--Engages in Interactive Make-Believe Play
   - assigns/assumes make-believe roles
   - selects and uses props from the prop box
   - speaks in appropriate make-believe (role) voices
for his efforts. He may also simply need to be directed to make the dolls talk. At a higher level of structure (more directive) you may have to direct the child to make the doll move while you make the doll talk. At the highest level of F structure, instruct the child to observe you while you model a brief episode with the extra blocks and dolls.

7. Focus on having the child

- construct a make-believe set
- verbally declare that the constructed set is related to the make-believe episode to be generated e.g., "This is where the family lives."
- make the dolls act within the setting (move, talk, use different voices, etc.)
- make symbolic (non-realistic) use of play materials (e.g., a block can be a T.V. or a vehicle)
- incorporates totally imaginary play objects into his play episode (e.g., "Mother serves imaginary breakfast")
- provide direction/organization to the theme

8. Use the continuua on the next few pages to guide your intervention within the broad framework provided above (steps 1-7). Remember to be only as intrusive (directive) as the situation demands. Withdraw as much of your participation as possible as soon as the child demonstrates that he can handle the dramatic play situation on his own.

Socio-Dramatic Play

Socio-dramatic play requires the same make-believe play skills as dramatic play with the following major exceptions: In socio-dramatic play, (a) the children themselves (not dolls) must assume the major make-believe roles; (b) the props are more life-size; and (c) sustained verbal and non-verbal interaction between children
Continuum II: DRAMATIC PLAY
FOR THE CHILD WITH A LIMITED REPERTOIRE OF
MAKE-BELIEVE PLAY TECHNIQUES

DIRECTIVE

"Right now I'm going to make up a little story. You watch. When I'm done, you can do one."
Model a brief episode.
Then instruct the child to imitate what you did. Intervene whenever necessary.
Allow the child to change the theme if he prefers. The important thing is for him to acquire the make-believe techniques.
If this fails, do a few moments of mirroring and body referencing. Then try dramatic play again.

NON-DIRECTIVE

"I'll make the dolls talk while you make them move."
"Make the daddy kiss the mommy and the children. He's going to work now."
You may need to supply "one-liners" as models for the child—e.g., "Bye, Suzie, Bye, Johnny, I'm going to work now. Have a nice day at school."
"Make the daddy say that in a daddy voice."

"What does the mommy say to the children?"
"How does the daddy talk?"
"Did the children brush their teeth yet?"
"What's the daddy doing in the barn?"
"How come that little boy is still in bed? Isn't he going to school? Is he sick?"

"I wonder what the children want for breakfast."
"I wonder who takes care of the animals in the morning."
"The alarm clock is ringing."
"Someone should get the children up to eat breakfast and to go to school."
"Oh, Oh, the baby is crying."

"You're trying to think of a story to make up."
"It's hard, sometimes, to get started."
"You're not quite sure how to start."
"You'd like me to help you get started."

Nod
Smile
<table>
<thead>
<tr>
<th>Directive</th>
<th>Non-Directive</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;You're having a hard time controlling the animals. Watch, and I'll show you how to do it.&quot;</td>
<td>Make it obvious that you are watching the child very closely and that you are keenly aware of what's going on in his make-believe play.</td>
</tr>
<tr>
<td>Model a brief sequence that brings the same play episode under control.</td>
<td>&quot;The mommy is so angry, she's spanking all the children very hard.&quot;</td>
</tr>
<tr>
<td>Then say &quot;You try it now.&quot;</td>
<td>&quot;That table keeps falling down and making you angry.&quot;</td>
</tr>
<tr>
<td>If this fails, do a few moments of mirroring and body referencing.</td>
<td>&quot;The animals are all being wild this morning.&quot;</td>
</tr>
<tr>
<td>Then try it again.</td>
<td>&quot;The children are being good now so the mommy doesn't have to spank them.&quot;</td>
</tr>
</tbody>
</table>
| "Gently restrain "wild" play behavior and model more appropriate behaviors." | "Why don't the children help feed the animals so they will quiet down?"
| "You need to make the children behave now so the mommy doesn't have to be so angry and spank so much." | "Can you make the children be good now so that the mommy won't be angry anymore?"
| "I want you to make the daddy fix the table so it won't keep falling down." | "Where's the daddy's tool box so he can fix the table?"
| "Make the children go feed and pat the animals in the barn so they won't be so wild." | "Why don't the children help feed the animals so they will quiet down?"
| "You're getting a little bit out of control. You need to make the animals become friendly now." | "Maybe the daddy can fix the table so it won't keep falling down and making the children angry." |
- has verbal exchanges with other children within his make-believe role
- enacts a make-believe story

2. Control Objectives

- maintains consistency of roles and themes
- remains "under control" within the role
- waits his turn to play a favorite role
- makes appropriate (although not necessarily conventional) use of props
- delays beginning the make-believe play long enough to plan its progress with the other children
- re-negotiates roles, themes, other changes with other children as necessary

Procedures

Procedures are offered in the next section entitled, "Themes, Props, and Procedures for Sessions 7, 8, and 9" beginning on page 30. Sample F intervention behaviors are offered on continuua #1 and #2, pages 57 and 58.

THEMES, "PROPS", AND PROCEDURES

for

SESSIONS 7, 8, and 9

Session #7 -- "PET STORE"

Roles: Mommy (or Daddy)
       Little Boy (or little girl)
       Pet
       Pet Store Clerk (usually to be played by F, minor role)

"Props": baby receiving blankets (to form pet's bed and to serve other ubiquitous functions)
         leash (length of heavy yarn)
         large woman's purse (for Mommy)
         play-doh "food pellets" for pet and/or for use as coins or other functions
         sign saying pet store
         telephone
         bowl
General Procedures

The following should be presented at the beginning of the session, after preliminaries. Neither the children nor the F are limited to this particular line of development. This is presented as a "take-off" point for the children or to supplement their own ideas during this first group session. F should not be surprised to find that children are shy and self-conscious at first. The structure provided by this "story line" should help give them confidence. F's willingness to deviate from this story will probably also communicate to the child that he is also free to deviate from it.

(1) Present the theme for this session, showing "props" as you do so.

"Today we'll start with a story about a little boy (or girl) who goes to the pet store with his mommy (or daddy) to buy a new pet (explain "pet" if necessary). The little boy's mommy had said that if he was a good boy and put his toys away every night, that he could have a new pet for his birthday. Well, it's finally the little boy's birthday. (At this point, have the children decide on a name for the little boy.) Mikey's mommy says, "You've been such a good boy, you've been putting away your toys every night. Remember what I promised you?" Have children respond as though they were all three the little boy. So they put on their jackets, got into the car and drove to the pet store. When they got to the pet store, they got out of the car and went inside. They looked at all the different animals there, and they talked about what they liked about each one. Have the children give examples of attractive animal attributes. Encourage children to provide as much of this information as possible.

The little boy finally chose one of the animals to take home for his very own pet. The mommy asked the clerk (explain if necessary) how much the pet cost. Then she paid him and bought some other things for the pet -- pet food, a bed, and a leash (explain if necessary).

The mommy and the little boy took the pet home. They fixed up his bed, put his food in his dish. Then they brushed him, gave him a walk, and then put him down for a nap.

If the children are unable to extend this from here, suggest that the pet refuses to eat and cries a lot so they have to call the "vet" (explain if necessary). Encourage them to take it from there.
The children may prefer to repeat the "story" as is and exchange roles each time until each child has at least had a chance to be the preferred role (probably the pet). They may prefer to maintain their initial roles and change the outcome of the story or even deviate from it significantly. That is fine. Your task is not to ensure that they reproduce this story but rather to use it as a tool, a model, to encourage them to assume make-believe roles and organize and develop a story line surrounding those roles.

Session #8 -- "DOCTOR - NURSE"

Roles: Mommy (or Daddy) (probably to be played by F since it is a minor role)
Little Boy (or little girl)
Doctor
Nurse

"Props": baby receiving blankets (to be used as bed, pillow, cover, etc.)
stethoscope
thermometer
tongue depressors
small pill bottles with chocolate-coated candies in them (different colors in each bottle for differentiating kinds of "pills")
cotton balls
adding machine tape (to use as bandages)
masking tape (to tape bandages)
telephone
large woman's purse

General Procedures

The following should be presented at the beginning of the session, after the preliminaries. Remember that you and the children are not limited to this particular line of development. This should serve as a model, a pivot, a take-off point for the children's own ideas. The following presentation, however, should help clarify the
nature of the roles (e.g., what do doctors do, what do nurses do) and provide them with confidence to elaborate on this idea. Be sure to communicate to the children that they are free to deviate from this story. You will need to model some of the following as you present the story.

(2) Present theme. Use/show "props" as you present the theme.

"Today we'll start with a story about a little boy (or girl) and his mommy (or daddy). The little boy comes up to his mommy and he says: 'Mommy, I don't feel good.' The mommy says: 'What's wrong, honey?' (This might be a good time to have the children give the little boy a name.) He says he has a tummy ache and his arm and his legs hurt too. The mommy asks if it hurts a lot. The little boy says it does. The mommy says she will call the doctor. (Now might be a good time to give the doctor a name.) The mommy calls the doctor and tells him about the little boy and where it hurts. The doctor tells her "You'd better bring him in so I can give him a good check up and see if he needs some medicine."

Mommy and the little boy put on their jackets, mommy takes her purse. They go to the doctor's office. The nurse tells them they can come right in. She tells the little boy to lie down on the examining table and the doctor will be right in. The nurse puts a thermometer in his mouth to take his temperature. The doctor comes in. He talks to the little boy. He asks him what the problem is, where it hurts. Then the doctor says, "well, let's have a look." He puts the tongue depressor in the little boy's mouth and looks at his throat. Then he looks in the little boy's eyes and in his ears and nose. "Your throat is a little bit red, you'll need some pills." Nurse (give her a name), please give him 2 red pills.

Let's have a look at your arms and legs, now. Doctor gently squeezes arms and legs and says "he'll need some bandages." Mrs.____(name), his legs are hurting. Nurse____, will you help me bandage his arms and legs please?"

Session #9 -- "CIRCUS" Theme

Roles: Ring-Master
Various Acts: Trained Dancing
Bruno, the Bear (or other name)
Bear's Trainer
Clown

"Props": megaphone
"Whip" (trainer's)
food pellets to reward the bear (play-doh)
Silly Clown's hat

The following should be presented after the preliminaries.
Remember to use this freely as a guide and a model, not as a fixed
story to be reproduced.

(1) Present the theme and the "prop" box. Show/use the "props"
as you present the theme.

"Today we're going to play circus." Ask who has been to a circus.
Ask what they saw there, or describe it to them. Most will probably
have at least seen some circus acts on television. Draw on those
experiences. Explain who the ring-master is, what his job is. Model
it. Discuss how the trainer makes the bear dance and how the bear
looks when he's dancing. Explain how the trainer uses food to reward
the bear for doing a nice job.

"There are clowns at a circus too, aren't there?" Discuss
what clowns do, how they make people laugh. Have the children
generate ideas about some funny things that this clown (give it a
name) can do to make people laugh. Give only as much help as is
needed. Let the ideas flow from the children if at all possible.
However, if the ideas are not forthcoming, do not hesitate to pro­
vide a few models to get them started.

(2) After these roles have been played, the children may want
to try out some other circus roles.

(3) They may decide, if there is time remaining, that they would
like to go back to an earlier session theme or make use of the
"props" to come up with an entirely new theme. Proceed in the
manner described on page 31.

(4) Use the least directive forms of intervention that are appro­
priate, but do not hesitate to become very directive (e.g.,
model) if one or more of the children demonstrate the need.
See the continuua on pages 56 and 58 for sample intervention
behaviors.
Continuum II: SOCIO-DRAMATIC PLAY
DOING INTERACTIVE PRETEND PLAY

<table>
<thead>
<tr>
<th>DIRECTIVE</th>
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<tbody>
<tr>
<td>&quot;You're not quite sure how to be the doctor right now. Watch me do it. Then you can try it again.&quot;</td>
<td>&quot;You're not quite sure how to get started.&quot;</td>
</tr>
<tr>
<td>Modal briefly.</td>
<td>Smile</td>
</tr>
<tr>
<td>&quot;I'll talk like the nurse and you just do what I say&quot; or &quot;do the nurse's actions.&quot;</td>
<td>&quot;It's hard to be the doctor because you're not sure what to do.&quot;</td>
</tr>
<tr>
<td>Then verbally (and physically, if necessary) guide the child through his role.</td>
<td>&quot;You'd like me to show you what the doctor does.&quot;</td>
</tr>
<tr>
<td>&quot;The little boy has to cry now because he doesn't feel good.&quot;</td>
<td>&quot;You can't decide if you want to be the nurse or the mother.&quot;</td>
</tr>
<tr>
<td>&quot;Make the nurse take his temperature now.&quot;</td>
<td>&quot;Uh-huh.&quot; (approval)</td>
</tr>
<tr>
<td>&quot;The doctor has to check his throat. Make the little boy say &quot;aaah&quot; while the doctor checks his throat.&quot;</td>
<td>&quot;How does the little boy get to the doctor's office?&quot;</td>
</tr>
<tr>
<td>&quot;How does the nurse -give a shot? -give him medicine?&quot;</td>
<td>&quot;I wonder what the little boy is saying while he has his check-up?&quot;</td>
</tr>
<tr>
<td>&quot;How many pills does the doctor tell the little boy to 'take'?&quot;</td>
<td>&quot;How does the little boy get to the doctor's office?&quot;</td>
</tr>
<tr>
<td>&quot;Who helps the doctor bandage the little boy's leg?&quot;</td>
<td>&quot;The little boy will need a check-up to see why his belly hurts.&quot;</td>
</tr>
<tr>
<td>&quot;The little boy has to cry now because he doesn't feel good.&quot;</td>
<td>&quot;The little boy will need a check-up to see why his belly hurts.&quot;</td>
</tr>
<tr>
<td>&quot;I wonder what the little boy is saying while he has his check-up.&quot;</td>
<td>&quot;You can't decide if you want to be the nurse or the mother.&quot;</td>
</tr>
<tr>
<td>&quot;Uh-huh.&quot; (approval)</td>
<td>&quot;You're not quite sure how to get started.&quot;</td>
</tr>
<tr>
<td>&quot;You can't decide if you want to be the nurse or the mother.&quot;</td>
<td>&quot;Uh-huh.&quot; (approval)</td>
</tr>
</tbody>
</table>

Group A only: If this fails, do a few moments of mirroring and body referencing.

Then try again.
### Continuum 2: SOCIO-DRAMATIC PLAY

#### CONTROLLING/ORGANIZING MAKE-BELIEVE PLAY

<table>
<thead>
<tr>
<th>DIRECTIVE</th>
<th>NON-DIRECTIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;You watch, I'll show you how a doctor would really act.&quot;</td>
<td>Make it very apparent that you are watching and that you are keenly aware of what is happening.</td>
</tr>
<tr>
<td>Then model.</td>
<td>&quot;I wonder if the doctor really say the little boy's mother?&quot;</td>
</tr>
<tr>
<td>&quot;I'll say the words for the nurse and you just do the actions. Then when you know what things nurses say, you can say them too.&quot;</td>
<td>&quot;The doctor is having a hard time controlling himself.&quot;</td>
</tr>
<tr>
<td>&quot;You'll need to make the doctor calm down and act like a real doctor.&quot;</td>
<td>Sometimes you can't remember if you're supposed to be the little girl or the nurse.&quot;</td>
</tr>
<tr>
<td>&quot;What else does the nurse have to do?&quot;</td>
<td>&quot;You'd like to make some new plans for this make-believe story.&quot;</td>
</tr>
<tr>
<td>&quot;The nurse has already taken his temperature, doctor. You need to do something else.&quot;</td>
<td>&quot;What would be a fair way to decide who gets to be the doctor first?&quot;</td>
</tr>
</tbody>
</table>
| "What does the doctor really say to the little boy?" | "What could the nurse use to bandage the little boy's arm?"
| "I wonder if the doctor would really say that." | "After the little boy has his check-up, you can decide who will be the little boy next time." |
| "Sometimes you can't remember if you're supposed to be the little girl or the nurse." | "You'd like to make some new plans for this make-believe story." |

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TREATMENT B

Alternate Treatment B was designed as a method for isolating certain aspects of the play facilitation procedure described by Wolfgang (1977). Operationally, the Wolfgang procedure differs from other (researched) play facilitation methods in that it incorporates a number of play activities that are not specifically make-believe. These are designed to prepare the child -- i.e., to make him more responsive to and more capable of handling -- specific make-believe play techniques in training. It is with regard to those non-make-believe play activities that the alternate Treatment B will differ from Treatment A. It is the contribution of those particular activities that will be examined via the alternate treatment B.

The non-make-believe activities selected for use in this project were:

a. mirror activities
b. finger painting activities
c. easel painting activities
   and
d. play-doh activities

Remember that the contents (i.e., the sequence of play activities) of play training sessions remain the same for Treatment B as they were in Treatment A. The most notable difference is that approximate times/activity will probably be briefer in the non-make-believe activities for Treatment B since F will devote no effort to "turn out" the child. This may have the effect of placing the child
in charge of terminating activities than is the case for subjects receiving Treatment A.

The description of Treatment B and of the specific intervention differences will be described by major activity type: (a) mirror activities; (b) finger painting; (c) easel painting; and (d) play-doh.

**Mirror Activities**

This is the activity in which the greatest differences between the two treatments will emerge. It is likely that Treatment Group B subjects will simply not show much interest in the activities. The reasons for this are:

(a) These activities, much more than the others, are interactional in nature -- i.e., they require interaction between subject and F. The F will be minimizing to a large extent, many of the appealing aspects of her interaction. Thus, the anticipated diminished interest for the child.

(b) The child will have had previous experiences with the other types of activities (painting, play-doh) but it is unlikely that he has had experiences with mirror activities. Thus he will have no repertoire of behaviors to fall back on to initiate this kind of play or to sustain it.

(c) The activities are designed to be F-led. In this treatment mode (B), the F will provide only lead-in instructions, and thus the activities are likely to be of briefer duration.
Mirror Activities

It is important that the F be warm and caring with the child during mirror activities (and throughout the training), in order to be sure that it is other factors that are contributing to treatment differences.

Materials and Equipment

(a) mirror
(b) M & M's in paper muffin cup liners

Procedures

1. After preliminary activities have been concluded (same as in Treatment A), tell the child: "Now it is time for us to play games in front of the mirror."

2. Ask the child if he wants to sit on your lap or right beside you.

3. Unlike Treatment A, do not mention that you both need to be visible to one another in the mirror.

4. Place a small handful of M & M's in a paper muffin cup liner (about the same number of candies you would use in Treatment A "Activation" exercise).

5. If the child prefers to eat all his M & M's at once, allow him to do so. Some children may prefer to eat them gradually throughout the play session. While at the mirror, engage only in casual ("realistic", or non-make-believe conversation).

6. If the child comments that he sees his and/or your reflection in the mirror, acknowledge those comments but do not make any attempt to elicit or encourage them.
7. Invite the child to "make faces" with you. "First you make some, then I will make some." Or, if the child is reluctant, say that you will make faces first and then he can have a turn to make some. Do not encourage the child to look at his or your reflection in the mirror. ALSO, do not mimic the faces that the child makes; do not invite him to mimic yours. This is only to be a "making faces" activity, not a "mirroring" or mimicking activity.

8. Repeat Step #7 a few times unless the child emphatically expresses a desire to "do something else".

9. Invite the child to do a familiar finger play -- e.g., Eensie, Weensie, Spider." Do not do it with the child. Assist with the words if necessary but not with the finger gestures.

10. Preserve the basic aspects of the activities used in Treatment A Mirror Activities. But specifically avoid focusing on "reactivating" and on establishing body boundaries.

Finger Painting

The materials and equipment and general procedures will be the same for Treatment B as they were for Treatment A with the following important exception: For Treatment B, F will make no attempt to model, elicit or reinforce experimentation with the sensory or physical properties of the paints or to express enjoyment of the finger painting process.

Procedures

1. Say: "Now it's time for us to finger paint."
2. "You'll need to put your smock on."

3. Show the child the materials (paints and paper). Then indicate that he may start (if necessary).

4. Ensure that the child understands that it is acceptable for him to use his fingers to paint. If the child uses tongue depressors exclusively and avoids using his hands, ask: "Do you know what these paints are called?" (Answer: Finger paints). Follow-up with a slightly more directive question if the child still does not use his hands: "Why do you suppose these are called finger paints?" Your only purpose in asking these 2 questions (maximum twice each) is to ensure that the child knows that he may use his fingers. Do not further encourage the child to explore the medium.

5. Instead of encouraging sensory exploration, make friendly task-relevant talk (when it seems necessary) to ensure that the experience is a pleasant one for the child.

6. If the child engages in representation (make-believe painting content), respond to it as you would for Treatment A.

7. Because F intervention will be limited, the children may not know how to sustain their painting and so they may conclude their painting considerably earlier than the broad time indications suggest. Try to keep activity times roughly comparable to those in Treatment A by telling the child that he "can make another picture" or "can have another paper" or "here's another paper".

8. Specifically avoid the F intervention behaviors described in continuua # 1 and # 2 on pages 26 and 27.
9. If the child cannot control the medium or becomes obviously upset with the messiness of it, intervene minimally -- only as much as you determine to be necessary to prevent emotional flooding. If minimal intervention fails, terminate the activity rather than do the control interventions as for Treatment A. Simply say: "We'll try this another day. Let's do_____(next activity planned for that session).

Easel Painting

Materials and Equipment
Same as for Treatment A

Procedures
1. Say: "Now it's time for us to easel paint."
2. "You'll need to put on your smock."
3. Place a paper plate flat on the table in front of the child.
4. Show the child the paints and brushes and then indicate that he may start.
5. Intervention with regard to representational painting ("make-believe content") will be the same as for Treatment A.
6. Avoid encouraging exploration/experimentation with easel paints. If necessary (to keep the experience pleasant for the child), respond to or initiate task-relevant talk.
7. Respond minimally (e.g., nod) if the child expresses enjoyment of the painting process, but respond fully if the expression of enjoyment is made with regard to the painting product (e.g., if the child says "I like that sun I made.")
8. If the child cannot control the medium or becomes upset with the messiness of it, intervene \textit{minimally} -- i.e., only as much as you determine is necessary to prevent emotional flooding. If minimal intervention fails, terminate the activity \textit{rather than} do the control interventions as for Treatment A. Simply say: "We'll do this another time. Let's do \underline{____}(next activity planned for that session.)"

9. Let the child paint a couple of plates (flat on the table), then give him paper. Allow him to paint a couple of these.

10. Tack a paper plate to the easel. Let the child paint a few of these. Then tack paper to the easel. Allow the child to paint as many of these as time allows.

11. For steps #9 and 10, follow intervention procedures outlined in steps #5-8.

\textbf{Play-Doh}

Materials and Equipment will be the same as for Treatment A.

	extbf{Procedures}

1. Say: "Now it's time for us to play with play-doh."

2. "I've put this plastic cloth on the floor to protect the carpet."

3. Show the child the 4 cans of play-doh. Indicate that he may begin:

4. Intervene as for Treatment A with regard to make-believe content (creating end products with an obvious form or which the child labels as a product).

5. \textit{Avoid} encouraging sensory exploration of play-doh. If the child
explores, do not interfere, but do not encourage or reinforce his exploration.

6. Intervene as for Treatment A if the child expresses enjoyment of the process -- e.g., with the sensory qualities of the play-doh.

7. As with Treatment A, encourage the child to incorporate play-doh products into dramatic play episodes.

**Dramatic and Socio-Dramatic Play**

Conduct Dramatic and Socio-Dramatic Play Episodes exactly as you did for Treatment A.
REFERENCES


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Observer's Introductory Training Manual

WHAT IS THE PURPOSE OF THIS EXPERIMENTAL STUDY?

The major purpose of the study is to see how effective a certain new procedure is for training 4-5 year old children to become better at make-believe play.

WHAT IS YOUR ROLE AS AN OBSERVER?

Your role as an observer will be to observe and record (write down) the spontaneous play of the children in this study. The observations you will make will later be rated by trained raters on certain dimensions of play to see if the training procedures were effective in making the children better at make-believe play.

HOW CAN YOU LEARN TO DO THIS TASK OF OBSERVING?

I will train you. This training manual is only an introduction to the topic and process. I will teach you how to do observations and then I will give you many opportunities to practice before the study begins.

WHEN WILL YOU OBSERVE?

You will observe ("pre-observation") during 2 weeks in January (before the experiment actually begins), during 2 weeks in mid-March ("post-observation"), and finally during 2 weeks in mid- or late-April ("follow-up observation").

WHO WILL THE SUBJECTS BE?

The subjects will be children aged 4-5 years old. They are enrolled in a local daycare center.

WHAT WILL YOU DO THERE?

You will go to the center, and on the basis of a random selection, will do a total of six 5-minute observation segments on each child during pre-, post-, and follow-up observations (so that there will be a total of 18 observations done of each subject). These observations will be done of the children's spontaneous play in the natural preschool play environment (the classroom).
WHAT WILL THE SCHEDULE BE?

I will work out a schedule that fits you as well as the center as soon as that is possible. You will receive a copy of it.

HOW CAN YOU BENEFIT BY PARTICIPATING IN THIS EXPERIMENTAL STUDY?

Participation can be an opportunity for you to
1. gain additional experience in working with young children
2. learn observational skills that you can use in all your professional interactions with young children
3. participate in an experimental study and see up close what some of the mechanics of doing research are
4. gain exposure to the literature on children's imaginative play and on other related topics.

At the end of the study, after all the data are collected (approximately mid-May), I'll be glad to spend some time with you talking about the hypotheses in the study and answering as many of your questions as I can. I can also provide reading lists for you. In addition, if you would like to have facilitator training in addition to training in observational techniques, I will be glad to arrange that with you at our mutual convenience after mid-May. I want to make this experience useful for you. Please let me know in what additional ways I might do that.

OBSERVATION TECHNIQUES—GENERAL

1. Use the observation forms provided. See page 13 for a sample sheet.

2. Time each observation. Each observation segment should be exactly 5 minutes long. Write down the beginning and ending time for each observation segment. Use a watch, stop watch or clock with a minute hand to ensure accuracy.

3. Be unobtrusive.
   a. Whenever possible, sit—do not stand—to observe. Avoid hovering over children's play so that they become self-conscious or wildly excited and stop playing.
   b. Do not feel that you have to remain rooted to the first spot you choose for observing. Do try to take up different positions in the room or area.
   c. If more than one observer is observing in the same
room or area, avoid sitting together. Try to take up different positions in the room or area.

d. Avoid getting in the teacher's way while she is handling a situation, even though this is something you are observing. If you miss details, ask the teacher about them later. If the interruption exceeds one minute, do not count that observation. Make a note of the interruption, then do a replacement observation.

4. If the children ask what you're doing or what you're writing down, say, "I'm writing down what children like to play" or something similar. Remember that your interactions with the children could influence their play behaviors. So be friendly, but do not initiate interactions and try to keep your responses to questions brief.

5. Describe the general setting prior to the observation. Set the scene by describing generally what is in the room or area, (a quick sketch may help). Be sure to note number of children, number of adults, what they generally appear to be doing, as well as anything unusual (e.g., new "interest center", special crafts activity, visitors in the room, etc.).

6. Note the observed child's reaction(s) to you.

7. Make your observations detailed and objective. See pages 7 to 10 for examples.

   a. Describe the child physically
      - facial expressions
      - posture
      - body movements
      - general physical appearance (neat, groomed, etc.)

   b. Describe the child's verbal behavior
      - what the child says (as much of it as possible)
      - rate of speech
      - tone of voice
      - intensity of speech
      - sound effects made (what they seem to mean, if possible)

   c. Describe the child's response to play materials
      - toys/materials he plays with
      - toys/materials he conspicuously avoids
      - the manner in which he handles toys/materials
d. Describe the child’s response(s) to others
   - whom he plays with (or conspicuously avoids)
   - how he interacts with other children, teachers

e. Describe what roles the child assumes and who assigns them

f. Describe what the child’s feelings appear to be based on actual observable behaviors (e.g., facial expressions, rate of movement, verbalizations, etc.).

8. Your impressions are important, but only if you can indicate clearly what specific behaviors you observed (e.g., facial expression, posture, tone of voice, rate or intensity of speech) that made you arrive at those impressions. (See examples on p. 8).

9. Avoid subjective interpretations. If you are not sure exactly what the feelings behind certain actions are, just note in parentheses (e.g., seemed sad? seemed angry?) after describing the behaviors that suggested those feelings to you.

10. If things are happening too fast for you to record everything accurately, jot down key words and/or make quick sketches. After the observation segment (5 minutes) ends, write a paragraph that comes as close as possible to capturing what happened.

11. Other things to note:
   - if the observed child begins, ends or changes the direction of play; and if another child or adult does so, how the observed child responds
   - if the child conspicuously avoids certain areas, toys, materials, themes, children, teachers
   - if the observed child destroys his clay or paint products or his block constructions

12. Things to note about specific play materials:

   In Block Play. Make quick sketches rather than try to verbally describe the construction in detail. Include details on
   - what size blocks are used
   - number of blocks used
- supplementary materials used
- what forms or types of constructions
- use of space
- whether the child labels his construction

Example: J. put unit block #1. Added #2. Said excitedly "Oh! It's a dead end street (#3)", etc. Then #6, "Now this horse (X) will never get out of the corral" (X = ½ block).

In Painting (Finger or Easel):
- use of hands, fingers, nails, knuckles, etc.
- use of color (which ones)
- use of space (whole paper, off the paper (on walls, self, floor, table, etc.?), small area, center, corner)
- overlapping of colors
- reactions to paint drips -- does the child intentionally create drips? get upset about dripping paint? incorporate accidental drips into the representational forms?
- preference for brushes--thick, thin
- kinds of brush strokes
- what forms does the child create?
- does the child paint over (destroy) his forms?
- does the child name the painting?
- does the child paint quickly? slowly? in relaxed or agitated manner?
- does the child for a long time on one painting? does he prefer to make several paintings?

In Response to Clay or Play-Doh:
- how the child handles the clay physically (e.g., roll, pound, pull apart, squeeze, poke, make balls, snakes, slap, stamp, pat, scrape, etc.)
- does he use supplementary tools (e.g., molds, cutters, sticks, beads, toothpicks)?
- does he name his products
- does he destroy his products?
- how does he use material in the space available (over and beyond boundaries provided, spread out, in one corner, in center only)?
- does he combine colors in his products? mix colors?

In Sand and/or Water Play:
- if and how he uses container or other tools to empty or fill, scoop, sift, "salt", etc.
- if he makes "waves"
- reactions to spills
- reactions to getting dirty, etc.
- how the child uses his body (e.g., hands, fingers, arms, to play directly with the media)

In Social Play: (Play involving other children)

- if the observed child assigns or chooses roles; or how he responds if others assign roles to him
  e.g., "You can be the baby. I'll be the father...."
- how the child sets the make-believe scene
  e.g., "This little boy just came back from the dentist. He had to have a shot. Now I'll be...."
- what props are used and how
  e.g., Jennifer dramatically swung the superman cape onto her shoulders....

Note: You will be writing about other children, but remember that you need to focus on the observed child.
What you write about other children is to clarify what is happening with the observed child.

NOTE-TAKING HINTS

1. Abbreviate or take shorthand if you can. Don't try to write full sentences.

Examples:

T = teacher  J = Johnny  hpy = happy
B = baby  LB = little boy  nthus = enthusiastic
M = mother  wlk = walk  stic
F = father  rn = run  grmpy = grumpy
ht = hit  p. u. = pick up
l = left  p. d. = put down
r = right

2. Write down key words. Fill in after the observation segment when you are writing up your observation.

3. Use sketches to save time.

4. Underline words to indicate intensity.

5. Put your notes in written form as soon as possible after the observation. That way you can "fill in" from memory much of what you didn't have time to jot down.
EXAMPLES OF OBSERVATIONS

A Poor Observation

It really is not accurate to report the following incident in this way:

"(Lois and Tom were in the doll corner. Lois was playing 'dress up' and Tom was watching her.)

Tom took a small fox fur piece from the shelf and pushed the head of the fox at Lois. She jumped back, then picked up the other fox fur piece and pushed the head of the fox at him. They dueled with the fur pieces for a few moments, then stopped. Lois put the fur piece down on the shelf and told Tom, 'Go away.' Tom looked at her and asked, 'What shall I do?' Lois told him, 'Go to work.' Tom said, 'You go to work.' Lois picked up a pair of gloves from the shelf and started to put them on, saying, 'no, you.'"

A Better Observation

The following version comes closer to being an accurate description of what took place because it includes the manner in which the children were behaving and the tone of their relationship.

"Tom grabbed a small fox fur piece from the shelf and mischievously pushed the fox head at Lois, trying to tickle her. She leaped away, giggling, then snatched up the other fox fur piece and pushed the head at him in retaliation without the slightest hesitation; in fact with zest! They dueled with the foxes for a few moments, both flushed, giggling, and seeming to be completely enjoying themselves and this teasing kind of play. Then, as though by common consent, they both desisted at the same time. Lois plopped her fur piece down on the shelf and, assuming a stately pose and indifferent air, told him, 'Go away.' Tom looked at her and asked rather helplessly, 'What shall I do?' Lois told him, in the manner of one annoyed at having to spell out the obvious, 'Go to work!' Tom protested with some heat, 'You go to work!' Lois picked up a pair of gloves from the shelf and, beginning to draw them on a la grande dame, retorted firmly, 'no, you.'"

(from Carbonera, 1961, pp. 16-17)

A good observation should be written such that the child's behavior could fairly accurately be reproduced from the observation protocol. It should be clear whether the child
is doing "pretend" play, whether the child is absorbed and/or enjoying the play, and what specific aspects of the play seem most enjoyable.

**Recording Impressions**

"Sometimes it is awkward to write impressions simultaneously with descriptions of activity. One possibility, in this case, is to insert a paragraph in parentheses. In the following example, the child had been building a train track so quickly that it was clumsy to report all of her activity and the qualitative impression at the same time.

"Throughout the building episode, Trudy's body appeared relaxed and loose; her movements had a flowing, graceful quality as she knelt, lay on one side or the other, etc., as described above. Her face was bright-eyed and absorbed; her movements decisive and energetic. While she was building, it seemed that ideas were coming to her so quickly, and she was so excited about them, that she could scarcely find the right pieces of track and put them together quickly enough to keep up with the flow of inspiration. Her verbalizations were, characteristically, soft-spoken and rather matter-of-fact."

(Carbonera, 1961, p. 17)

**Other Examples of Good Observations**

"Two-year old Penny at the sandbox:

Penny runs to sandbox carrying tablespoon, empty orange juice can, and toy plastic teacup. She climbs down into sandbox, sits down in corner, and silently and intently begins to fill can with sand, using spoon. She is oblivious to several other children around her. She stands up, dumps sand from can onto asphalt outside sandbox. She bangs can down on sand several times, then gently pats sand with open palm, saying 'Cake.' Rene, aged four, comes up. Penny pulls the can away and stands still, staring at Rene. Teacher gives Rene a small spoon and plastic cup. She stands beside Penny and they both begin to spoon sand, occasionally smiling at each other."

(Cohen & Stern, 1958, p. 29)
"Winky, age 4½, at the paints"

Winky points to the window and with radiant face calls in delight, 'It's snowing cherry blossoms! First they are white, then green, then red, red, red! I want to paint!' He goes to the easel and quickly snatches up a smock. Sliding in beside Wayne, he whispers to him caressingly and persuasively, "Wayne, you want blue? I give it to you, okay? You give me red because I'm going to make cherries, lots of red cherries!"

After the boys exchanged paint jars, Winky sits erect, and with a sigh of contentment starts quickly but with clean strokes to ease his brush against the edge of the jar. He makes dots all around the outer part of the paper. His tongue licks his upper lip, his eyes shine, his body is quiet but intense. The red dots are big, well-rounded, full of color, and clearly separated. While working, Winky sings to himself, 'Red cherries, big, round red cherries!' The first picture completed, he calls the teacher to hang it up to dry. The next picture starts as the first did, dots at the outside edge, but soon filling the whole paper. He uses green too, but the colors do not overlap.

Still singing his little phrase, Winky paints a third and fourth picture, concentrating intently on his work.

The other children pick up his song and Wayne starts to paint blue dots on his paper. Waving his brush, Winky asks, 'Wayne, want to try my cherries?' Swiftly and jubilantly, he swishes his brush across Wayne's chin. Laughing, he paints dots on his own hands. 'My hands are full of cherries,' he shouts. He runs into the adjoining room, calling excitedly to the children, 'My hands are full of cherries!' He strides into the bathroom emphatically to wash his hands. Susie follows him in, calling, 'Let's see, Winky.' 'Ha, I ate them all,' he gloats as he shows his washed hands with a sweeping movement. He grabs a toy bottle from the shelf, fills it with water and asks the teacher to put the nipple on. He lies down then on a mattress and contentedly sucks the bottle, his face softly smiling, his eyes big and gazing into space, his whole body limp with satisfaction."

(Cohen & Stern, 1958, p. 34)

"Four-year old Alfred went straight to the blocks when he came to the nursery. There were only two other children at school at the time, both at the clay table. Alfred started to build what looked like a train. He set five blocks in a long row on the floor. At one end he put two blocks on top of each other and sat on them. Danny had just come in and walked over to Alfred.

Danny. 'Is that a bridge?'
Alfred. 'No, it's a train.'
D. 'Where's it going?'
A. 'to New York. I'm the engineer. I build big trains.'
D. "I'm conductor, I drive the train."
A. impatiently, 'No, no. I'm the engineer. I made it.'
D. 'What can I do?'
A. 'You collect the tickets.'
D. 'What tickets?'
A. 'The ones the passengers give you...(out loud) Who wants a ride on the train?...All Abo-a-rd...All ab-o-ard. Train going. Woo...woo... It goes so fast.'

Harry came into the room and ran over to the train.

Harry. 'I want to get on.' He got another block from the shelf and put it on the middle of the train. He picked up a very small block from the floor and held it to his mouth as he would a telephone and yelled, 'Hello, hello. What's wrong with you? We're leaving and we gotta have food. Bring hundreds of boxes...Right away, you hear?' He slammed the telephone down.

Alfred. 'We got a flat. I'll fix it. Got to fix it now.' With swaggering pretentiousness he removed one of the blocks from the line and turned it upside down and replaced it. Then he got back on the two blocks.

Mitchell came over and got on the train.

Alfred. 'Get off, get off. It's my train...(demandingly) "GO AWAY."

He gave Mitchell a push to get him off. Mitchell attempted to get on again, and again Alfred pushed him off. The teacher complimented Alfred on his train and suggested that he allow other children to share it with him. Alfred made no response, but did nothing when Mitchell got on again and sat behind him.

Alfred. 'No gas, no gas. Hey, Mitch, no gas. Ha, Ha! Now no gas. First flat tire, now no gas.'

Danny took the block which Harry had used as a telephone and called on it. 'Hey, you, bring gas. Train needs gas. Ha, Ha! Hurry up, you dope.'

Alfred. 'All off! It's lunch time. Let's get some food. Follow me. I'll show you, men.'"

(Cohen & Stern, 1958, p. 54)

PRACTICE ASSIGNMENT

Do two or more five-minute observations during the next few days. For example, observe a person in the cafeteria or library, someone on the bus, a person shopping, an instructor during class, your nephew at play, etc.

Try to develop your own shorthand.

Refer to your manual after the practice observations to see what things you may have omitted.

Have fun! You'll be surprised to find how many details you'll notice which you probably would miss under ordinary
circumstances.

A FINAL NOTE

I realize that all the details I have listed may appear overwhelming at first. Fortunately, you won't need to memorize all of them. Just read them over carefully. Try to visualize situations in which these details might be observed. Then, when you actually begin doing the observations, you will be surprised at how much you actually remembered and noticed. You should be much more sensitive to detail in a situation just as a result of having considered the details in this manual carefully. Remember, too, that we will have many opportunities to practice together before data collection begins.

REFERENCES


OBSERVER'S CHECKLIST

1. Child's Name?
2. Date?
3. Your Name?
4. Segment #?
5. Setting?
6. Beginning and Ending Times?

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7. Movements in the physical environment--i.e., where the child goes, plays, moves to, etc.
8. Speech--amount, content, rate, intensity, pitch, volume
9. Quality and Rate of Body Movements
10. Facial Expression, Posture, and other expressive Gesturing
11. Uses of Play Materials--conventional, symbolic, hording, naming of products, destruction of products, preferences, etc.
12. Make-Believe Elements --sound effects, symbolic (unconventional use of props, use of make-believe props, establishing make-believe situations (time and place)
13. Apparent Affect plus Evidence!

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TAKE TIME TO FLESH OUT YOUR NOTES!!!

 YOUR PERSONAL REMINDERS
CHILD'S NAME ___________________  CODE ____________

OBSERVER ____  DATE ____________

SEGMENT # ______

OBSERVATION PROTOCOL

SETTING:

TIME:

OBSERVATION:
Training Manual
for
Raters of Observation Protocols

(These rating materials were prepared by the experimenter for use with the Freyberg rating scales for imaginativeness, concentration and affect (see Singer, 1973).)

Deanna M. Lamb
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General Instructions for Rating

There are three types of ratings that are to be done in this study. These are ratings of the protocols on imaginativeness, affect (or positive emotion), and concentration. These 3 scales are presented on pages 1-3 with definitions of each scale point from 1 to 5 with 5 representing the "high" or "positive" end of the scale. Review the protocol carefully looking for examples of each level. Naturally, the child may change from time to time. We are interested in your evaluation of the overall pattern and predominant direction of its behavior with respect to each dimension. Do not be afraid to use a full range of scores rather than sticking conservatively to the middle. After rating a few protocols you may want to go back and revise earlier ratings based on broader experience with more children in the group. Under no circumstances must you consult with any other rater until after your rating is set down. The ratings must be independent. See page 16 for a sample of the form to be used for recording your ratings.

Imaginativeness

1. Is extremely unimaginative in his play. Introduces no pretend elements into the play situation. Extremely stimulus bound by the play materials.
2. Is slightly imaginative in his play, occasionally introducing fleeting pretend elements into play situation, but does not stay with any pretend situation for very long. No originality or organization found in pretend situations. A few pretend elements added to otherwise very stimulus-bound play.

3. Shows a moderate amount of pretending in his play, but not very original or removed from the actual stimulus situation. Some ("little") organization or consistency pretense or role-playing. No voice changes or simulated vocalizations. Considerable changing from one activity to another.

4. Shows a substantial amount of pretend elements in his play, spontaneously creating make-believe situations, showing some originality in his pretending, not changing activities very often. Some organization and consistency in pretense or role-playing, including some simulated vocalizations.

5. Shows high originality in the ways he uses toys and play materials. A very high number of pretend elements in his play. High organization of activity and role-playing. Is able to go well beyond what the play stimuli in themselves suggest. Resists interruption of play by others.

Affect

(Note that mild surprise, interest, and joy are viewed as positive affects and are scored high.)

1. Shows no interest or pleasure in the toys or play activities; much tangential behavior, conversations with observer, teacher, and others; critical remarks about toys or play activities; no smiling, laughter, or evidence of pleasure in playing.

2. Shows only mild pleasure and interest in toys or play activities; much looking around and/or desultory manipulation of play material. Occasional smiling or laughter.

3. Shows moderate interest, pleasure and enjoyment of activities and toys; talking freely about the play activities; somewhat lost in quiet enjoyment, considerable smiling and/or laughter during activities; some animation.

4. Shows deep pleasure and interest in play activities,
smiling or laughing frequently. Expresses frequent pleasure, describing spontaneously or acting out fantasies in play.

5. Shows extreme delight in play; laughing, singing, smiling; thoroughly enjoying self in play, reluctant to leave play situation.

Concentration

1. Shows brief or little attention to or absorption in activities; aimless wandering, high distractibility, many questions to teacher; responding to noises or talk of children in room. Hyperactivity with no real interaction with play material.

2. Engages in superficial play with toys and play materials while looking around the room, staring passively, talking to teacher, or wandering aimlessly. Changes toys and/or activities frequently.

3. Responds with moderate interest to the toys or play activities. Changes activities only once during the 5-minute segment. Some distractibility and no real loss of self in the play situation. Some response to outside stimuli such as noises and the talk and play of other children.

4. Shows good absorption in play activity; very little response to outside stimuli, no change of activity during 5-minute segment; no tangential behavior or conversation pertaining to activities other than the one at hand.

5. Shows intense absorption in play activity; stays with one activity for a long period of time; oblivious to outside stimuli, may not even respond to direct questions from teacher or children not included in the play situation at hand.

The Observation Protocols

Observations will be done in five-minute segments. Each segment will be recorded on a separate observation protocol form and will be rated independently by 2 of the 3 raters. Pre, post, and follow-up observation protocols will each consist of 6 five-minute segments/subject, making a total of 18
observations per subject. It will be critical that the pre-
observation protocols be rated immediately. Ratings will be
used to determine classification of subjects. These class-
ifications will then be used as a basis for assignment to
groups. Post and follow-up ratings will not need to be done
immediately.

A few examples of observation protocols can be found on
pages 5-12. These should serve to illustrate the format
that observers will be following throughout the study. Chil-
dren's and observers' names will not appear on the protocol
form. Only codes will be found there. Each observation will
begin with a brief description of the specific play setting
the child is in when the five-minute observation begins.
Starting and ending times will be noted. The actual obser-
vation will follow. Protocols will be concluded (when nec-
essary or appropriate) by brief comments regarding the
observer's impressions of the play.

**Initial Training Assignment**

On pages 13-15, you will find imaginativeness, affect,
and concentration ratings for each of the 4 sample protocols.
Accompanying these ratings, are my comments explaining my
rationale for rating as I did. Before you look at my rat-
ings, try rating these 4 sample protocols yourself. Make
notes that explain your rationale, then compare your ratings
and your comments to mine.
CHILD'S NAME  (Sample Protocol #1)  CODE  323
OBSERVER  ___________  DATE  11-29-77
SEGMENT #  __2_  

PRACTICE OBSERVATION

SETTING:  Free play time.  18 children present.  Some in
structured (game) activities, others reading, some
in housekeeping area, others at block play.  S is
sitting by the door.

TIME:  10:00 - 10:05

OBSERVATION:

S is sitting in a chair at a table near the door.  She
stretches her arms over her head and backward.  S crosses her
legs and looks curiously about the room.  She looks like she
is talking to herself, moving her mouth, but the sounds are
inaudible.  She jumps up quickly and marches across the room,
with her chest thrust outward, with large, almost marching
steps, and her arms swinging back and forth.  When the tea­
er calls out "Where's Brian?", she answers "He went for the
milk."  She has a loud clear voice.  She walks around the
room, stopping to look at other children and asks several
times of various children, "Whatcha doing?"  She laughs and
smiles fairly frequently.  She makes some clowning faces.
S walks over to the pile of plastic animals (miniature) and
looks them over.  She picks up an elephant and a horse and
pushes them together as though they were kissing.  She shakes
her head and smiles, "You kiss each other, you love each other,
now come on."  Then she holds the elephant in her two hands
and says to a girl, "This elephant is your husband, you love
her." Then she throws the elephant back to the pile and jumps up giggling. Her whole body is in motion. She turns to the girl next to her and says: "You something else." She picks up a toy from the floor and says, "You're broken, just have to throw you away." She throws it on the bottom shelf. She walks over to the house corner and puts on a pair of high heels and prances around the room with her chest thrust out and her hands on her hips.
CHILD's NAME (Sample Protocol #2) CODE 548
OBSERVER E DATE 12-2-77
SEGMENT # 1

PRACTICE OBSERVATION

SETTING: 5-6 children in housekeeping, none of whom are engaged in sustained play. Momentary make-believe episodes about mommy and daddy and babies. S is there too.

TIME: 10:30 to 10:35

OBSERVATION:

S wanders around the housekeeping area dragging his feet and with his thumb in his mouth, twirling his hair with his other hand. He climbs up on the table and gets back down on the floor immediately. He lifts the baby cradle off the floor with Lucy. Puts the cradle back down on the floor. S jumps and down saying loudly and excitedly, "Lisa, Lisa, Lisa!" Returns to sucking thumb, twirling hair and aimless wandering within housekeeping area. Comes across a girl lying on the floor in the middle of the housekeeping area and says "Hi, Lynn." Moves to outer corner of housekeeping area and asks another child, "How about we both be daddy?" S wanders again, having received no response. He still has his thumb in his mouth and continues to twirl his hair. He acts as though he is aware of being observed. His activity becomes subdued, he glances at the floor and alternately glances in the direction of the observers. S moves to the doll cradle and stands in it. He jumps off saying, "Whoops", softly. That activity ends abruptly and he begins
to watch as other children dress up. S asks Lisa, "Watcha got there?" He gets no response, so repeats, "Lisa?" Suddenly he kneels on the floor and giggles. After a moment, S stands up and begins to pull toys out of the cupboards. His movements are rapid and he does not become engaged with any of the toys—he simply pulls them out and drops them on the floor. Once again he falls to the floor on his knees and smiling and giggling says "Whoops!" he pretends to eat from a spice can for a moment. Then he begins to suck his thumb and twirl his hair again as he wanders seemingly aimlessly. He acts self-conscious about being observed again. S walks to the window adjacent to housekeeping. He stands for a moment looking out, twirling his hair and sucking his thumb. He manipulates the heating vents for a few seconds. Another child joins him. They both look out the window very calmly and quietly and make comments about the snow, about looking out the window at the snow at home, etc. He leans on the heating unit and rocks back and forth on his hands quietly as he and the other child discuss the snow (can't get close enough to understand the dialogue).
PRACTICE OBSERVATION

SETTING: S is at the sand table. 6 other children are there. These others are being quite raucous. They are all using many utensils and supplementary toys (cars, rakes, scoops, etc.).

TIME: 11:15 - 11:20

OBSERVATION:

S leans her arms on the edge of the sand table. She fills her Woolite bottle with sand using a small dish. She pours very quietly. S pushes the sand (quite forcefully) into the end of the bottle (it is actually full--she seems to want to put even more sand into it) using the handle end of a toy rake. She works quite hard at this for several moments. S scratches her face and tries again to get more sand into the bottle by poking (patting down) with the handle of the rake. Then she clasps her Woolite bottle close to her chest with one hand, and begins to rake the sand with the other hand (using the rake). She puts the rake down and picks up a measuring spoon. After scooping and emptying the spoon a few times, S pretends to eat from the spoon. The other children are arguing over amounts of sand and utensils. S simply watches. No particular expression is evident on her face. She comments: "I'm not using any sand." Another child tries to reach for her Woolite bottle. S says "No! Marty!" quite emphatically, but still not as loudly as the
other children are speaking. She hugs the bottle close to her face. She continues to hug her bottle and look at the sand very quietly as the other children continue to squabble over sand and utensils. She picks up a bottle cap and begins to pat sand into it. She pokes her finger (index), into the center of the cap, making "volcano" (my choice of words). She empties and fills the bottle cap several times, each time poking a hole into the center with her index finger. Still holding her Woolite bottle, she begins to squeeze the sand in front of her with her free hand. She appears very intense (her lips are tight, she is not distracted by the other children and does not even seem to notice when they intrude into her sandbox "territory". A half smile appears on her face as she continues to rake the sand with her both hands now. (The Woolite bottle remains cradles close to her neck and shoulder.)
SETTING: Two children, including S, are engaged in dramatic play in dress-up corner.

TIME: 11:00 - 11:05

OBSERVATION:

"Tom grabbed a small fox fur piece from the shelf and mischievously pushed the fox head at Lois, trying to tickle her. She leaped away, giggling, then snatched up the other fox fur piece and pushed the head at him in retaliation without the slightest hesitation; in fact with zest! They dueled with the foxes for a few moments, both flushed, giggling, and seeming to be completely enjoying themselves and this teasing kind of play. Then, as though by common consent, they both desisted at the same time. Lois plopped her fur piece down on the shelf and, assuming a stately pose and indifferent air, told him, "Go away." Tom looked at her and asked rather helplessly, "What shall I do?" Lois told him in the manner of one annoyed at having to spell out the obvious, "Go to work!" Tome protested with some heat, "You go to work!" Lois picked up a pair of gloves from the shelf and, beginning to draw them on à la grande dame, retorted firmly, "no, you." (from Carbonera, 1961, pp. 16-17)
The remaining pages of the manual provide (a) explanations of rating criteria; (b) definitions of terms used in the rating criteria; (c) specific behavior samples illustrating the criterion behaviors; and (d) protocols for rating practice. We will be rating many of those protocols together during group training.
Ratings and Comments for Sample Protocol #1

Imaginativeness = 3

- moderate amount of pretend elements
- pushes elephant and horse together as if kissing
  - "You kiss each other"
  - "This elephant is your husband"
  - "You love each other now, come on"
  - "You love her."
  - "You're broken"
- "Just have to throw you away"
- puts on pair of high heels
- prances around the room ....
- The above lacks originality. There is little organization of pretense. There are no voice changes. There is considerable changing from one activity to another.

Concentration = 2

- superficial play (stereotyped, imitative) -- (high heels)
- frequent change of activity
  - sitting
  - up, marching, making clown faces
  - pile of animals, picks up elephant and horse, throws elephant down
  - jumps up
  - picks up toy, throws toy to floor
  - to housekeeping, shoes, prances
- responds to outside distractions
  - says to girl next to her "You something else"
  - responds to teachers general question: "Where's Brian?"
  - looks at other children playing
  - asks other children what they're doing but does not become engaged

Affect = 3

- quiet enjoyment
  - "marching", swinging arms
  - smiles fairly frequently
  - smiles
  - prances around the room
- moderate interest and enjoyment of play activities
  - While she does not stay with any activity for very long, it is clear that she is doing more than handling the toys in a desultory manner.
- some animation
  - giggling
  - body in motion
  - marches, arms swinging
  - pushes the animals together
  - throws the elephant down
  - prances with hands on hips
Ratings and Comments for Sample Protocol #2

Imaginativeness = 2
- a few fleeting pretend elements
  - "how about we both be daddy?"
  - "Hi Daddy"
  - pretends to eat from a spice can
- Lacks originality or organization
- Very stimulus bound in play
  - picks up cradle as he goes by
  - pulls out toys from shelf
  - jumps off the cradle
  - climbs up on the table and gets down immediately

Concentration = 1
- Brief or little attention/absorption in activities
  - does not ever really engage in play
- Aimless wandering
- Very distractible
  - conscious of observer
  - conscious of other children
- Goes from being very low key (no interaction) to highly excited, non-organized behavior (throwing toys off the shelf) and back again to very low-key behavior

Affect = 2
- no obvious negative affect
- some excitement, giggling, animated movements
- mild interest in toys marked by handling them (picks up, puts down, throws down)

Ratings and Comments for Sample Protocol #3

Imaginativeness = 1
- No make-believe elements can be inferred
- Use of word "volcanoes" is the observer's expression, not the child's

Concentration = 4
- Absorption is quite intense and of long duration
- Responds only briefly to outside stimuli
  - watches other children argue
  - says "no" to child who tries to take her bottle
Affect = 3
- Fairly high interest marked by very low distractibility
- Very much lost in quiet enjoyment
- Talks very little
- Smiles briefly
- Note: While S does not meet the criterion of talking freely about the play, her interest and the quality of her involvement are clearly more than "desultory manipulation" of play materials (rating 2).

Ratings and Comments for Sample Protocol #4

Imaginativeness = 5
- High originality
  - Fox fur pieces suggest dress-up at obvious level. Use of pieces for dueling, then to play grande dame sequence that follows are quite original
- Many make-believe elements
  - The whole episode is permeated by make-believe. They don't seem to deviate from their "as if" play at all.
- High organization
  - Roles are consistent
  - Roles are developed in that they go beyond dress-up
- No play interruptions are reported
- Simulated vocalizations

Concentration = 5
- Intense absorption
- No change of activity
- No tangential behavior
- Make-believe play set is maintained

Affect = 5
- Meets all the criteria for a 4 rating plus the pleasure is better described as extreme delight than deep pleasure. They are thoroughly enjoying themselves.
- Although they do not indicate reluctance to leave the play situation, their continuation of the make-believe episode suggests that might be so.
### Protocol Raters' Recording Form

#### Imaginativeness

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Imaginativeness Criteria and Behavior Samples

Note: In the play literature, the terms imaginativeness, fantasy, pretend and make-believe are used almost interchangeably. For purposes of this study, those terms will refer to mental processes that are inferred from observable make-believe or pretend elements.

Imaginativeness has been defined as stimulus-free mentation. Given a cue (of either internal or external origin), an imaginative person can generate make-believe (or unreal) content and is less dependent on further cues, or stimuli, to sustain his fantasy.

Examples of internal cues: imagery, kinesthetic experiences, emotional states

Examples of External Cues: teacher's suggestion, "Prop", toy, movie, or other experience.

A less imaginative person is more dependent on external cues or stimuli to sustain his mental activity— that is, his mental activity is more stimulus-bound.

There are 4 qualitative criteria of imaginativeness used in the rating scale:

1. presence of make-believe elements (sine qua non)
2. organization and role consistency
3. originality
4. sustained episodes

These will be defined (or described) and examples will be provided for each of them.
Make-Believe or Pretend Elements

a. Imitative role play. The child undertakes a make-believe role and expresses it through imitative action and/or through verbalization.

Examples:

Child gets down on hands and knees and pretends to lap milk as a cat would.

Child assumes the role of a butcher in the market. Rubs his hands on an imaginary apron as he says to his customer, "How many hot dogs would you like today, Mrs. Smith?"

Child spreads arms out and runs around simulating jet engine sounds (sound effects).

Note the following:
- whether the child ascribes emotions, desires, thoughts, fantasies, etc. to the roles (characters) he plays.
- whether the child ascribes relationships between his own and other roles in a socio-dramatic play episode, e.g., mother-father, sister-brother, mother-son, etc.
- whether aesthetic or moral judgements are made of characters.

b. Make-believe with regard to objects. Movements or verbal descriptions or declarations are substituted for real objects.

Examples:

"Let's pretend there's a sailboat on the water and it can't get back to shore because there's no wind." Any object may be used to represent the sailboat (e.g., block, plastic lid) or the sailboat may be entirely imaginary as was the butcher's apron in one of the examples above.

c. Make-believe with regard to actions and situations.

Examples:

"The father had to study so he couldn't play outside with the children. You be the babysitter and take all the children out to the park to play...."

Child sits 3 stuffed animals on a wooden chair and declares that the chair is the school bus and that it is taking the children to school.
d. Establishing an episode of make-believe.

"You be the father...."

"Let's pretend this is a circus. I'll be the clown. Do you want to be an elephant or a trapeze artist?"

It might also be helpful to examine a few examples produced by a child who is stimulus bound (i.e., who has not learned to use pretend elements in his play). Note that in these examples, conventional functions, properties and meanings of toys or play materials are not violated or even stretched.

Examples:

1. A hat is always a hat and never a baseball mitt or fishing pond.

2. First child drapes an old length of dark green fabric diagonally across her shoulder and chest and sings "Here she is, Miss American" as she promenades affectedly through the room. The second child (stimulus-bound) says "You can't be Miss America, you're just a kid! Besides, that's only a rag; it doesn't say the name of a state or anything on it!"

3. Is unable to enjoy hand puppets or dramatic play with dolls because puppets and dolls "can't talk".

4. Recoils at the thought of 2 children both playing the "daddy"--he feels that there is only 1 daddy and that 1 of the children has to be the mommy.

Organization

There are at least 5 qualities of play that suggest that it is organized:

1. role development
2. clarity of roles
3. consistency of roles
4. consistency of theme(s)
5. presence of a "story line", or plot, with a beginning, a middle and an end (or at least with some apparent direction).

The following sample play episode could have all of these qualities when dramatized:

An unpleasant woman buys pork chops at the supermarket. When she gets these home and tries to prepare them for dinner, it becomes apparent that these are not ordinary pork chops—they are "jumping pork chops". Each time the woman attempts to cut or trim them, they jump like Mexican jumping beans. Some of them jump so high that when they fall down, they fall inside the woman's open purse. Unbeknownst to her, the pork chops end up accompanying her on a shopping trip down into the city. The more-than-ordinary pork chops have many experiences on the subway, in the park, etc. At the conclusion of their long day, the woman discovers them in the side pocket of her purse. By then the pork chops are so tired and satisfied with their day that they are now content to be ordinary pork chops.

A less organized episode might be characterized by lack of a story line. Using the pork chop theme, the pork chops would perhaps "jump up and down" but not end up in the woman's purse and end up having all the "shopping experiences". The theme might shift readily from jumping pork chops to sword fights (knives) or a birthday party or anything else. Role assumption might be tenuous and confused—i.e., the pork chops might become the woman and the woman the pork chops without any apparent reason. Some of the roles might even be confused with the self of the player(s). Play episodes may tend to be quite brief in duration.

**Originality**

Play that is lacking in originality will be characterized by (a) stereotypical imitation of roles and/or (b) conventional uses of play materials and toys. Also, play
that is more imitative than imaginative will be characterized by a narrow range of stereotyped roles—e.g., Superman, Isis, The Bionic Woman, Sesame Street Characters, etc. Such roles will be played out in brief, and often repetitive episodes that lack significant variation from one time to the next.

Examples of role-playing that lacks originality:

1. Child may play a traditional role such as "fireman". Repeatedly, the same (or very similar) episode is replayed. An alarm comes in, the fireman puts on his hat and runs through the room saying he's a fireman and that he's going to put out a fire. He sprays an imaginary hose and then returns to the firehouse to await the next alarm (only to repeat the same or very similar sequence).

2. Child goes to the block corner and builds a freeway. Almost each time he does so, traffic backs up on his freeway, the policeman comes and eliminates the jam. This episode is replayed frequently with almost no variation.

Examples of conventional uses of play materials or toys:

1. A child may refuse to (or get upset about) take housekeeping dishes into water and/or sand play ("These aren't supposed to be here!").

2. One child (original) takes paper that the teacher has put out with magic markers and begins to make paper dolls out of the paper, clay from the next table, and some tongue depressors and glue, while the second child (conventional user) continues to draw with magic markers while remarking that "That's not the way you're supposed to do it."

3. Child puts the doll to bed in the doll cradle (but avoids putting it to sleep in the stroller because "it's not for sleeping.").

In general, a less original child appears more reality-bound in his play. He also seems to be less able to move flexibly between reality and fantasy (and hence will tend to stick to "realistic" play). He may even manifest a prefer-
IMAGINATIVENESS RATING SCALE

1. Is extremely unimaginative in his play. Introduces no pretend elements into the play situation. Extremely stimulus-bound by the play materials.

2. Is slightly imaginative in his play, occasional introducing fleeting pretend elements into play situation, but does not stay with any pretend situation for very long. No originality or organization found in pretend situation. A few pretend elements added to otherwise very stimulus-bound play.

3. Shows a moderate amount of pretending in his play, but not very original or removed from the actual stimulus situation. Little organization or consistency of pretense or role-playing. No voice changes or simulated vocalizations. Considerable changing from one activity to another.

4. Shows a moderate amount of pretend elements in his play, spontaneously creating make-believe situations, showing some originality in his pretending, not changing activities very often. Some organization and consistency in pretense or role-playing, including some simulated vocalizations.

5. Shows high originality in the ways he uses toys and play material. A very high number of pretend elements in his play. High organization of activity and role-playing. Is able to go well beyond what the play stimuli in themselves suggest. Resists interruption of play by others.

AFFECT RATING SCALE

(Note that mild surprise, interest, and joy are viewed as positive affects and scored high)

1. Shows no interest or pleasure in the toys or play activities; much tangential behavior, conversations with observer, teacher and others; critical remarks about toys or play activities; no smiling, laughter, or evidence of pleasure in pleasure.

2. Shows only mild pleasure and interest in toys or play activities: much looking around and/or desultory manipulation of play material. Occasional smiling or laughter.
preference for more "realistic toys and materials" over less realistic ones.

**Sustained Episodes**

Sustained episodes will be defined as those which run continuously (without major interruption by other activity or theme or story) for about 5 minutes. Since 5 minutes is the length of the observation segments, each individual protocol in which one theme is sustained for the entire protocol can be considered to have a sustained episode.

**The Imaginativeness Scale**

On the following pages, you will find aids for rating play observation protocols on imaginativeness. Each level of the 5-point scale will be presented with its aids.

1. Is extremely unimaginative in his play. Introduces no pretend elements into the play situation. Extremely stimulus-bound by the play materials.

- Manipulates the elevator lift on the toy garage. Makes no attempt to place cars or dolls or other toys on it. No sound effects.
- Picks up fire-truck and says: "I have a fire-truck." May identify some of its parts and manipulate them, but makes no attempt to "become" the fireman or to "drive" the fire-truck to a "make-believe fire".
- May engage in highly structured activities (e.g., puzzles, table games) and/or may engage in predominantly large muscle motor activity--e.g., riding trikes, swinging, sliding.
- May also spend time simply manipulating play materials.
- Assumes no roles.
- Only seems to **respond** to (versus initiate) play.
materials that enter his stimulus field—e.g., picks up gun and holster because he is near them, not because he saw them from across the room and thought he'd like to get them.

2. Is slightly imaginative in his play, occasionally introducing fleeting pretend elements into play situation, but does not stay with any pretend situation for very long. No originality or organization found in pretend situations. A few pretend elements added to otherwise very stimulus-bound play.

Unlike the child on level #1, this child may assume the role of fireman, or may drive the truck to the fire; however, he tends not to sustain his play. His make-believe involvements are tenuous.

In riding a trike (or doing other large muscle activity) this child may occasionally say he's stopping at a gas station to re-fuel.

In manipulating play materials, he may suddenly say: "Hey, I made a snake." Once again, however, there is only momentary make-believe. His play is still lacking in dramatic development.

The following 5-minute observation protocol should be rated a 2:

"Grandpa has to go to work now" says S as he walks over to housekeeping. He marches around the room energetically, swinging his arms. He stops and inspects the telephone booth in the corner. He walks a few steps across the area to the block shelves and picks up 3 oblong blocks. Carrying the 3 blocks almost clumsily (as if he might drop them anytime), he walks around the block shelves and peeks around the corner (housekeeping) to watch 2 girls fighting over play materials. One child is quite angry and the other child is trying to pacify her. The angry child directs one of her unintelligible outbursts toward S. S is startled by this and reacts by standing quietly, watching, and holding onto his blocks. As the third child pacifies the angry child, S asks "Who wants any pretty cars (or cards?)" "Not put the cards away" (?) "I'll tell you when you want them." He gets no response to these comments. He drops the blocks, picks them up immediately and walks into house-keeping. He stacks his blocks carefully on top of the cupboard. Then he walks over to the cradle and seems to be working very hard (tongue out, grunting, straining, pulling) to get something out. Finally, he pulls out a large box filled with dress-up clothes. "I've got a big box to go out the front" he states. "I have to get ready to put my jacket on now. etc.
3. Shows a moderate amount of pretending in his play, but not very original or removed from the actual stimulus situation. Little organization or consistency of pretense or role-playing. No voice changes or simulated vocalizations. Considerable changing from one activity to another.

May be very brief episodes of "house play" or other common themes such as fireman, policeman, "cars", but these tend to lack development. They may also tend to be limited to these common themes.

When roles are assumed, they tend to be stereotyped and/or more imitative than imaginative. Roles are lacking in appropriate voices and sound effects are not made.

Because of the brevity (lack of development) of the play episodes, the themes and/or activities may change several times within a 5-minute period.

The following 5-minute observation should be rated a 3:

S is sitting on the floor in housekeeping. She has 3 plastic containers (large Clorox bottles cut in half) filled with small plastic toys and little vehicles between her legs. S says to another child: "Sit right here." Her voice is quite loud and forceful. S gets up on her knees and hangs onto the edge of the table (still sort of kneeling) and says: "I'm the mother, too!" Another child approaches the housekeeping area and hollers out: "Who wants pizza?" S stands up, looks around, pauses, and then says "Meeeee" (in a rather sing-song fashion). She walks over to the other child (pizza man) who is handing out small miniature life toys similar to those S was playing with initially. "A mommy, a mommy!" she says excitedly, shaking her arms and looking into the container that pizza man is holding. She goes back into the housekeeping area, stands leaning on the edge of the table. Then she suddenly runs out of the area shouting, "Hey!" as she tackles another child to the floor in a powerful but apparently affectionate bear hug. "Hey mom, hey mom, come here, puppy's dead!" (apparently in reference to the child she just tackled). Two other children join her and they begin to drag the child by the arms and legs across the floor. The teacher intervenes to prevent injuries. The children remain within the make-believe set but discontinue dragging the dead puppy. One child says: "She's at the hospital" several times. S stands looking around, then shrugs her shoulders. She runs back into housekeeping very suddenly, picks up a toy mixer and absentmindedly manipulates it. She sees the "puppy" stirring on the...
floor and says: "Hey, puppy!" "She doesn't like the puppy" she adds to no one in particular. She continues to manipulate the mixer as she stands with the 2 other children. One of the other children says "Hey mom, the dog's going away!" S responds (disinterestedly) "That's awright." She proceeds to use the mixer again, first in the teapot and then in the air. She puts the whirring beaters to her mouth.

4. Shows a substantial amount of pretend elements in his play, spontaneously creating make-believe situations, showing some originality in his pretending, not changing activities very often. Some organization and consistency in pretense or role-playing, including some simulated vocalizations.

Includes all the qualitative criteria for imaginativeness during play but still to lesser degrees. The difference between a 4 and a 5 rating will be essentially quantitative. A level 5 rating will represent a play episode that includes most of the make-believe elements, is quite original and is sustained for most of the 5-minute period. It will reflect some planning (organization). Roles will be clear and consistent. There will be evidence of assuming voices of the roles played and some sound effects when appropriate.

Level 4, on the other hand, will include these elements, but to a lesser degree.

If we were to convert the observation protocol cited in level #3 to a level #4 rating, it would perhaps look like the following:

The "dead puppy" would be taken to the hospital where a doctor and a nurse would apply emergency treatment. The puppy might miraculously recover, go back home and receive a "gift" of a bone as a welcome home.

The "mixer" episode might somehow be related to the puppy's home-coming. A cake might be baked, and pretend cake and punch might be served to all. The baby might receive his punch in a bottle while the mother cooed and talked baby talk to him.

It would remain clear throughout who puppy, mother, baby, and other persons playing other roles were. There would perhaps be a precipitating event immediately prior to the puppy's collapse.

5. Shows high originality in the ways he uses toys and play materials. A very high number of pretend elements in his play. High organization of activity and role-playing. Is able to go well beyond what the play stimuli in
themselves suggest. Resists interruption of play by others.

Clay or other materials products may become cues for dramatic development.

There is a high degree of organization marked by planning, or "tooling up" (Leland, 1965). As a result of planning, children remain within their roles (unless roles are re-negotiated), there is clarity of direction in the story line, children have no apparent difficulty separating themselves (keeping their own identities separate) from the roles they play.

When faced with lack of information about how a particular role should be played, children either ask an adult or are quite content to fabricate what seems to them to be appropriate behavior for the role in question.

Children are capable of integrating a variety of apparently diverse stimuli (props, materials, etc.) into their play episode by weaving them into their original story line or theme.

Play episodes are sustained for approximately 5 minutes.

Roles (at least some of the roles) are original versus stereotyped or merely traditional.

The following is a series of possible episodes that would be rated 5:

A set of hollow blocks can readily be a castle haunted by a variety of interesting creatures, or caves set in the side of a mountain from which some adventure is organized and occurs.

The porkchop episode (page 20) is potentially a level 5, especially if something comparable to the following occurs: lumps of clay and blocks are used to symbolize porkchops; the dog is represented by a box with a string attached to it because there aren't enough children to play the roles; the unpleasant woman speaks in a very unpleasant voice; an imaginary butcher knife is used to try to trim the jumping porkchops, etc.

"Four-year old Alfred went straight to the blocks when he came to the nursery. There were only two other children at school at the time, both at the clay table. Alfred started to build what looked like a train. He
set five blocks in a long row on the floor. At one end he put 2 blocks on top of each other and sat on them. Danny had just come in and walked over to Alfred. Danny asks "Is that a bridge?" Alfred responds "No, it's a train." Alfred: "Where's it going?" Danny: "To New York. I'm the engineer, I build trains." Danny: "I'm the conductor, I drive the train." Alfred: impatiently, "No, no, I'm the engineer, I made it." Danny: "What can I do?" Alfred: "You collect the tickets." Danny: "What tickets?" Alfred: "The ones the passengers give you.... (out loud) Who wants a ride on the train?... All Abo-a-rd... (again). Train going. Woo... woo.... It goes so fast." Harry came into the room and ran over to the train. Harold: "I want to get on." He got another block from the shelf and put it on the middle of the train. He picked up a very small block from the floor and held it to his mouth as he would a telephone and yelled, "Hello, hello. What's wrong with you? We're leaving and we gotta have food. Bring hundreds of boxes ... right away, you hear?" He slammed the telephone down. Alfred: "We've got a flat. I'll fix it. Got to fix it now." With swaggering pretentiousness he removed one of the blocks from the line and turned it upside down and replaced it. Then he got back on the two blocks.

Episode continues--they run out of gas--they call on the telephone to get some. The episode terminates with "It's lunch time. Let's get some food. Follow me. I'll show you, men."

(adapted from Cohen & Stern, 1953 p. 53)

The Affect Scale

(Note that mild surprise, interest, and joy are viewed as positive affects and are scored high.)

1. Shows no interest or pleasure in the toys or play activities; much tangential behavior, conversations with observer, teacher, and others; critical remarks about toys or play activities; no smiling, laughter, or evidence of pleasure in playing.

Levels 1 and 2 are low in terms of the positive affect we expect (and want) a normal group of young children to express. Level 1 is very low. It would be likely that the teacher would express concern over this child.

No indicators of positive affect. No smiling, laughing, no animation or enthusiasm, no singing, dancing, skipping, hugging, no reluctance to leave, no verbal expressions of enjoyment, no interest (attending, becoming
involved, sustained involvement).

May tend to avoid other children or be unpleasant and generally ill-tempered with them. This ill-temperedness should pervade most of the observation to qualify the observation as a level 1. Occasional whininess does not suffice for a level 1 rating unless all other indicators qualify it as such.

Voice quality may be whiney, querulous, angry, drab, colorless.

The child may dawdle, refuse offers and suggestions and generally avoid play.

Eyes may be downcast, dull, fearful, sleepy, expressionless.

Mouth may be drooping, tight, quivering, pouting.

Passive watching of other children.

May be sighs of inferred boredom.

Comments such as "These are stupid toys." "I don't wanna do this." "My mother said I don't have to play this if I don't want to."

Negative comments about another child's use of materials; "You can't even make a house!" "That's not how to do it!"

S enters the room reluctantly, hanging on to mother. He dawdles as he puts his coat and things in his cubby. He stands inactively, looking "through" the other children and not responding to their attempts to establish interaction with him. With regard to play materials, toys or activities, S consistently says "I don't wanna play. My mommy says I don't have to do that." Or, he stands very passively, sucking his thumb, tugging at his clothes or twisting a strand of hair. The morning passes without his ever having played or without his ever having participated in any activity such as finger plays, songs, etc. About 1 hour before leaving time, S begins to ask when his mother will return and seems to take some temporary comfort in hearing the teacher's response. When mother arrives, S does not express joy at her arrival, but instead passively but hurriedly gets his things and leaves without a word to the teacher or to the other children.

2. Shows only mild pleasure and interest in toys or play activities; much looking around and/or desultory
manipulation of play material. Occasional smiling or laughter.

No negative remarks about the play materials, toys or activities.

No indicators of negative affect (unless obviously provoked). Here again, 1 or 2 instances of minor whininess or anger are not sufficient to rate a protocol a 2 for affect unless all the other criteria are met.

Instances of positive affect are still minimal although in evidence. Occasional smile, twinkle of eye, increased tempo of speech, increased rate of body movement, laughter (giggle, squall, exclamation expressing satisfaction or surprise). Look for 4 or fewer instances.

Positive verbal remarks may still be very limited or non-existent.

Most of the time, little or no animation or apparent pleasure (eyes remain dull, downcast, mouth grim, and overall look is rather vacant or grim as opposed to pensive).

Still much looking around (lack of real play engagement). Involvements with toys and play materials still very brief. Frequent interruptions to go to the bathroom, walk around the room, touch other materials, watch other children, etc. May become engaged in an activity, but fails to devote full attention to it—there are frequent distractions and what may be described as "mindless play".

After a month of play facilitation, the child described above in a level 1 example would enter the room, greet the facilitator with a smile and a big Hi. After hugging mother and being assured that she would come for him right after story time, S was instructed to select something that he and the facilitator would play together. It often took S as long as 30 minutes before he terminated his passive standing and watching and selected some play materials or toys. The blocks became a favorite. He would often go to the blocks and build excitedly. His constructions were non-representative and were given no titles, but S would repeatedly stack the longest blocks vertically and then knock them down. It was sometimes difficult to identify his excitement as either enjoyment or anxiety. S would frequently stop his constructing and stand passively. Eventually he would manifest some pride at being able to clean up the blocks by himself when it was time to do so.
3. Shows moderate interest, pleasure and enjoyment of activities and toys; talking freely about the play activities; somewhat lost in quiet enjoyment, considerable smiling and/or laughter during activities; some animation.

This level of expression of positive affect is so average that a teacher would perhaps not think to comment on it or to take special notice. It is the level of expression of positive affect that a teacher would expect from a young child at play, a level below which a teacher might be concerned, and above which she might take special notice.

"Penny runs to box table carrying tablespoon, empty orange juice can, and toy plastic teacup. She climbs up into the sandbox, sits down in corner and silently and intently begins to fill can with sand, using spoon. She is oblivious to several other children around her. She stands up, dumps sand from can onto asphalt outside sandbox. She bangs can down on sand several times, then gently pats sand with open palm, giggling and saying, "Cake." Rene, aged four, comes up. She starts to take can away from Penny, saying, "Can I have that?" Penny pulls the can away and stands still, staring at Rene. Teacher gives Rene a small spoon and plastic cup. She stands beside Penny and they both begin to spoon sand, occasionally smiling at each other. Penny suddenly and rapidly climbs out of the sand to the bench where teacher is sitting. She dumps the sand onto the bench and then spoons it back into the can. She dumps it onto the bench again, chuckles, and pats it gently. "I'm making cake," she says smiling. She takes a spoonful of sand and, with a grin, puts it on the teacher's hand. She looks up and sees Patty on the swing. She runs over...." (Cohen & Stern, 1958, p. 30—adaptation)

"Tip and Melvin have each made a beautiful plane out of blocks. Perry goes over and does the same. He tries to fix some blocks on the tail and 3 smaller ones on top. Everything falls down and he starts again, completely undisturbed. Crawling on his knees, he pushes his plane slowly forward, saying "Prrrr! Prrrr!" Melvin's and Tip's planes start to move also; Perry's is faster and he now races Tip's. "Look at this," he says brightly, "this is the propeller." It falls down and he fixes it quickly again. He laughs when other boys start to throw blocks around and says, while moving it slightly forward, "Mine is a fighter plane! Mine will be beating up the whole world in a few minutes. Burr! Burr!" Melvin, John and Perry start to fight jokingly, Perry kneels again and fixes something on his plane. "Look at this airplane."
He turns it around: "A crash at the airport happened. Three million people died." Melvin: "Mine is a hospital plane." Perry reports: "Mine too." Alex's long train bumps into his plane. "You bumped into mine," Perry says but he repairs it carefully and diligently without any resentment. Then he notices four of the girls and goes over to them and invites them to come over and admire his plane. He says to Carol, "Here is my plane, Carol. See my plane. It is a fighter!"

(Hartley, Frank & Goldensen, 1952, p.59)

4. Shows deep pleasure and interest in play activity, smiling or laughing frequently. Expresses frequent pleasure, describing spontaneously or acting out fantasies in play.

As a teacher, you might react to Level 4 play this way: "is having a pretty good time today" or " is playing so well today." Whereas a level 5 will appear exuberant and will be marked by sheer delight, hilarity, etc., a level 4 will be noticeably positive but characterized by lesser levels of the same characteristics as a 5. There will be fewer incidences of smiling or laughter, there may be fewer verbal expressions of delight and enjoyment, skipping and dancing may be more subdued and/or may occur less frequently, etc.

S picked up a hunk of clay and let it fall "kerplunk" on the table. Boom! he shouted, "I got a ball!" With excitement: "Look at my ball, teacher! Bounce! Bounce!" He banged it down a few times. Then he started rolling it into a long thin piece. "Here's a snake. I'm making a rattlesnake. Are you making a rattlesnake, Donna?" he asked the child nearest him at the other table. Then to David he said: "Now I'm making a snowman." He laughed and then said "Now I'm making a snake big as Edward's."

S held it up and chortled with glee. "Hee-hee-hee...." He dropped it on the table again, rolling it over and over, faster-faster, his motions in keeping with his words. Head and shoulders were hunched over the table, his lips and tongue stumbled over each other in an effort to increase the speed of his words. His eyes gleamed and his smile revealed his deep dimples.

(adapted from Cohen & Stern, 1958, p. 35.)

5. Shows extreme delight in play; laughing, singing, smiling; thoroughly enjoying self in play, reluctant to leave play situation.

As a teacher, you might point this child out to visitors as an example of a child who is well-disposed and capable of taking advantage of free play time. His expression of
positive affect is close to the ideal toward which you strive to have all your children approach. You should be able to say about this child: "He couldn't possibly be having much more fun!"

W. points to the window and with radiant face calls in delight, "It's snowing cherry blossoms! First they are white, then green, then red, red, red! I want to paint!" He goes to the easel and quickly snatches up a smock. Sliding in beside Wayne, he whispers to him caressingly and persuasively, "Wayne, you want blue? I give it to you, okay? You give me red because I'm going to make cherries, lots of red cherries!" After the boys exchange paint jars, W. sits erect, and with a sigh of contentment starts quickly but with clean strokes to ease his brush against the edge of the jar. He makes dots all around the outer part of the paper. His tongue licks his upper lip, his eyes shine, his body is quiet but intense. The red dots are big, well-rounded, full of color, and clearly separated. While working, W. sings to himself, "Red cherries, big, round red cherries!" W. paints 2 pictures in the same manner, filling up the paper. Still singing, W. paints a 3rd and 4th picture, concentrating intently on his work. The other children pick up his song and Wayne starts to paint blue dots on his paper. Waving his brush, W. asks, "Wayne, want to try my cherries?" Swiftly and jubilantly he swishes his brush across Wayne's chin. Laughing, he paints dots on his own hands. "My hands are full of cherries!" he shouts. He runs into the adjoining room calling excitedly to the children, "My hands are full of cherries!" He strides into the bathroom emphatically to wash his hands. Susie follows him in, calling, "Let's see, W." "Ha, I ate them all," he cheerfully gloats as he shows his washed hands with a sweeping movement."

(adapted from Cohen and Stern, 1958, p. 34)

Tom grabbed a small fox fur piece from the shelf and mischievously pushed the fox head at Lois, trying to tickle her. She leaped away, giggling, then snatched up the other fox fur piece and pushed the head at him in retaliation without the slightest hesitation; in fact with zest! They dueled with the foxes for a few moments, both flushed, giggling, and seeming to be completely enjoying themselves and this teasing kind of play. Then, as though by common consent, they both desisted at the same time. Lois plopped her fur piece down on the shelf and, assuming a stately pose and indifferent air, told him, "Go away." Tom looked at her and asked rather helplessly, "What shall I do?" Lois told him, in the manner of one annoyed at having to spell out the obvious, "Go to work!" Tom
protested with some heat, "You go to work!" Lois picked up a pair of gloves from the shelf and, beginning to draw them on a la grande dame, retorted firmly, "No, you." Both children then covered their mouths and giggled. Then in exaggerated mirth, fell to the floor, "rolling with laughter."

(adapted from Carbonera, 1961, p. 16)

The Concentration Scale

1. Shows brief or little attention to or absorption in activities; aimless wandering, high distractibility, many questions to teacher, responding to noises or talk of children in room. Hyperactivity with no real interaction with play material.

May walk around area without establishing any contact with play materials or toys.

May briefly manipulate play materials, but in these uses of play materials, the child will appear uninvolved, i.e., the child may finger a block as he stares out the window, or he may give a lump of clay an occasional squeeze as he watches other children play with their allotments of clay.

May be moving very rapidly or very lethargically--e.g., one child may move around the room rapidly, picking up and/or manipulating materials, but his contacts will tend to be so brief as to preclude any engagement in the play material or any opportunity for enduring play to develop. A similar description may fit when the child's movement is lethargic.

High distractibility will be evidenced by extreme sensitivity to noise, verbalizations and activity of other children, teacher or visitors. Distractions may also come from outside the building (e.g., construction or traffic noises).

May frequently interrupt momentary involvement with play materials to request to go to the bathroom, or with a question such as "When is snack time?", or just to cling to the teacher or make casual chit-chat with others.

S moves to the table set up with crayons and paper. Several children already been there coloring for about 10 minutes. S drags his feet and twirls his hair with one finger as he approaches the table. He stands nearby (about 1 foot away) for about a minute, making no effort to take paper and crayons. Another child at the table
asks S if he wants to color. S nods a small, shy nod, eyes downcast. He fits the right side of his body into the space the children have made for him at the table. Another child gives him a crayon, saying "Here, you can color with this blue one." S takes the crayon, looks around (ostensibly to see what the other children have colored). After a moment, S makes a few horizontal scribbles on his paper, sighs, turns to look at another child moving by with a doll in a carriage, drops his crayon on the table, pushes himself away from the table, and walks away from the table without a word, and dragging his feet. He leaves the paper he colored on the table.

S gets on a riding truck, pushes with one foot (other knee is on the seat) for a moment. After crossing the rug area, S gets up rapidly, leaving the truck there and runs to the teacher saying loudly, "Hey, Miss ____, I have to go to the bathroom." His tone is very Insistent. S doesn't wait for the teacher to respond, but instead runs into the bathroom, bumping another child in his hurry. S soon emerges from the bathroom, walks, stalking like a lion while "roaring" through the block area, directing his roars at 2 other children. Almost immediately, this "lion play" is terminated and S walks around the room looking at other children. S doesn't even stop to look at what the children are doing, but instead covers the whole room in a minute's time. He stops to finger some clay at the table, but refuses teacher's suggestion that he put on an apron and play with the clay saying, "I don't wanna do that." "I have to have my snack now."

2. Engages in superficial play with toys and play materials while looking around the room, staring passively, talking to teacher, or wandering aimlessly. Changes toys and/or activities frequently.

Play lacks real involvement—very little attention is devoted to the play activity itself.

There is marked brevity of involvement. Child may change activity several times during a 5-minute observation period.

May push play materials or objects (e.g., trucks, cars) around or manipulate toys (e.g., make service station elevator go up and down). These play engagements are brief and S tends not to devote his full attention to them. His attention seems to be splintered in several directions.
S may play with materials without looking at them or while talking to another child about another matter.

S may simply stare off into space or out the window as he briefly manipulates play things.

S may walk around the room as he absentmindedly manipulates a toy.

S cranked up the toy food mixer as he wandered around the room. He seemed to look at no one in particular. As he passed the bookcase, his arm trailed across its top and he let the toy mixer slide out of his hand onto it. He did not seem to look at the shelf or to intentionally put the mixer on it. He walked off aimlessly with empty hands.

S approached a table where another child was building with Lego. S briefly stacked Lego pieces, but made no attempt to "lock" them together. Neither did he seem to have any product in mind. The pieces his hand touched when he reached out (without looking) were those that he added to the "structure". He did not appear to be interested in either the process of building or in a product he might construct. More frequently than not, his eyes wandered around the room as he handled the pieces. He did not respond to the other child's questions or suggestions regarding his construction. When he did make verbal responses to the other child, his comments were irrelevant to the other child's questions or the comments had nothing to do with the Lego play.

Tracy slowly walked through the room, dragging her hands across all the shelves, table, etc. within reach (as though walking by a picket fence with a stick). She seemed to be off in another world. Her eyes were blank and even a bit glazed looking. She seemed to see no one. She stopped for a moment in the housekeeping area, picked up the black baby doll, and without looking, smoothed the doll's clothes out as she glanced toward the door where 2 teachers were conversing. She turned her eyes back to the doll, and then almost immediately let the doll fall. With a blank expression, she walked out of housekeeping to the block area where 2 girls were building a street with 3 houses on it. Each girl had a small plastic car with which she commuted to and from the distant imaginary shopping center. One of the girls invited Tracy: "You have to take your own car to go shopping. We all have to go buy groceries and bring them to our house." With this comment, the child offered Tracy a vehicle of her own. Tracy took the car and for a moment stood watching the
other 2 girls conduct their play. One of the girls in a rather annoyed voice announced to Tracy: "You're supposed to go shopping in your car!" At this, Tracy knelt on 1 knee and pushed her car behind the other 2 girls' cars, following their physical motions but not engaging in any of the make-believe chatter. After 2 rapid trips to the market, Tracy told another child passing by that he could have her car. "I don't wanna play anymore." From there, Tracy proceeded to a table where 3 children were engaged in water play. At the teacher's invitation, she donned a smock and after observing what the other children were doing for a moment, she swished a scoop through the water as she described the wonderful birthday party she had recently had. After a few moments, Tracy dropped the scoop in the bottom of the pan and didn't bother to retrieve it. With a sigh, she lifted the apron off, dropping it on the floor at her feet and stood looking vacantly across the room.

3. Responds with moderate interest to the toys or play activities. Changes activities only once during the 5-minute segment. Some distractibility and no real loss of self in the play situation. Some response to outside stimuli such as noises and the talk and play of other children.

Unlike levels 1 and 2, level 3 play will be marked by brief periods of absorption (no looking away, eyes looking at, not through, play materials).

While the child's involvement with a certain activity or play material may be sustained for a couple of minutes, the child may be easily distracted and may momentarily interrupt his play. Unlike a level 2 child, however, a level 3 child is more likely to return his attention to the original activity after the distraction ends or curiosity is satisfied.

Kathy bent into a squat and leaned into the dress-up shelf. When she stood up again, she had several scrap pieces of fabric in her hands. "This baby wet her diapers, again" she reported to nobody in particular. She set all but one of the fabric pieces down and then struggled to "diaper" the baby doll. She worked very quietly at the diapering task with her tongue stuck out and an occasional sigh. An altercation between 2 children just about 4 feet from her and directly across the cupboards caught her attention. Kathy held her doll limply in one hand as she watched the 2 fighting children. As the teacher approached to help manage the situation, Kathy said "uh-oh!" She soon lost interest in the fight and looked down at the baby doll for a moment. She
briefly resumed her diapering and then put the baby in the stroller. She pushed the baby into the stroller seat rather vigorously and then stood looking at it with her hands on her hips. (She seemed to be unsure about what she might do with the doll next.) "I put the baby in the stroller," she announced to the teacher. Teacher asked: "Where are you taking the baby?" "There", said Kathy as she pointed to the windows. Kathy pushed the stroller toward the windows, but was distracted by an attractive book cover on the book rack as she passed by. She picked up the book glancing at the cover for a moment. She moved a few feet to the left and sat down cross-legged on the floor. Another child joined her briefly with his own book. As they both sat there leafing through their books (barely looking at them), Kathy described her cousin who "lives 100 miles away and has 10 dogs!". Kathy closed her book, dropped it on the shelf, stood up, looked around indecisively for a moment, then resumed strolling the baby by the windows.

4. Shows good absorption in play activity; very little response to outside stimuli, no change of activity during 5-minute segment; no tangential behavior or conversation pertaining to activities other than the one at hand.

Can ignore most distractions (loud noises, visitors entering the room, other children running near his play area, etc.)

When the level 4 child does respond to distractions, he will do so only momentarily and then resume his original play almost immediately.

The activity with which the child is engaged may or may not be highly imaginative. What is important is that it is sustained and that he appear involved in it. It may result in a well-developed dramatic play episode, or it may simply be repetitive activity.

The child will not be carrying on any conversation that is irrelevant to the activity at hand.

The child will not be dividing his attention between two play materials unless they are somehow integrated into his play activity.

S has been raking his hands quietly through the sand at the sand table for several minutes. He turns to a peer near him who is playing in the same manner and shows him the bandaid on his finger and says "It's ok, cuz I have a bandaid on it." He continues raking, squeezing
and salting with sand as he makes this comment and then he returns his full attention to that activity after his brief comment.

Jeff is busy in the block corner when the observer approaches. He notices the observer and asks what she is writing. The observer responds "What children like to play". This answer seems to satisfy Jeff as he immediately returns to his block play. He is sitting on the floor, leaning on 1 elbow as he pushes a small plastic car across the road he has built. "This is a zoo" he says to nobody in particular. At the end of the roadway-like strip of blocks, several blocks are stacked and criss-crossed. Jeff does not discuss this structure but seems instead to refer to the entire construction as "the zoo". There is no mention of animals. For the duration of the observation, Jeff repeatedly pushes his car down the roadway toward the structure ("zoo") while simulating motor sounds. Occasionally he leans his head on his arm. The entire 5-minute observation period is filled with this activity. The vehicle occasionally topples off the roadway. Jeff does not verbally or in any other way indicate that there might have been an accident. He merely picks up the car, puts it back on the road and pushes it again.

5. Shows intense absorption in play activity; stays with one activity for a long period of time; oblivious to outside stimuli, may not even respond to direct questions from teacher or children not included in the play situation at hand.

Complete absorption in the activity.

Not responsive to distractions or interruptions unless they are really intrusive (e.g., if another child runs through and destroys his block construction).

At this level (as in the others), the activity itself may not necessarily be rated as highly imaginative. It may simply be a repetitive activity in which the child becomes intensely involved and during which he is not responsive to all but the most intrusive distractions.

Julia stood quietly leaning her chest on the edge of the sand table. In her left hand she held an empty dish detergent bottle. In her right hand, she held a small measuring cup. Four other children at the table were playing very noisily and frequent arguments erupted over hoarding of sand and supplementary utensils. Julia seemed to have completely tuned out these raucous
interchanges. Her eyes remained riveted to the bottle and measuring cup as she slowly dipped the measuring cup into the sand and then emptied the cup carefully into the bottle. Her face remained very quiet--i.e., she didn't frown or stick her tongue out as she filled and poured. She seemed very relaxed and totally involved in her play. As the bottle filled, she put the measuring cup down and gently tapped the sand down into the bottle. When the sand again reached the top of the bottle, she picked up a small bottle cap and began to add very small amounts of sand to the bottle from it. The noise around her was deafening. Julia remained oblivious to it all. She held the bottle a bit closer to her when it was completely full, put the cap down and began to gently clutch sand in her free fist and to slowly sift it through her fingers. She tilted her head gently to the left as she sifted with her hands. Her eyes remained glued to her hands.

Note: A child can be engaged in socio-dramatic play and still maintain a high level of concentration--i.e., conversation among the children engaged in a dramatic episode does not preclude high levels of concentration. The criterion in a group situation is whether the interactions (verbal and gestural) are (a) within the context of the play episode, or (b) concerned with managing the play episode.

Three children had been engaged for about 4 minutes in a dramatic play episode with a hospital emergency room theme. One of the children became dissatisfied with the repetitiveness of the play and indicated that "That's not all you're supposed to do in the emergency room. Sometimes nurses have to write things down on papers for the doctors to do." The other 2 children responded to this possibility. A brief discussion about how to enact this new behavior ensued. One child decided after all this that nurses don't tell doctors what to do; doctors "give all the orders". With this, the play itself resumed, but the repetitive activity of the nurse giving pills became more diversified as her new responsibilities were dramatized. Nurse proceeded to check the patient's pulse, check his ears, throat, give him an injection, bandage his arm, etc.
#1

S is assembling puzzles at a table with teacher and one other child who is working on his own puzzle. "Where do you think his hair would go?" asks teacher. S places puzzle pieces at teacher's suggestion. Leaning in on table (on elbows). Face expressionless, tries pieces herself as teacher helps other child. "If I could just find..." S looks at other child talking to teacher. Removes pieces that had already been placed and then immediately replaces them. "How does this go?" S asks in a whiny voice. S seemed to want the teacher's exclusive attention. Works fairly patiently to insert one piece upon teacher's direction. Then immediately asks "How will this go?" again, in a small, whiny voice. S notices the director enter the door. She turns her body half way around to see where he is going. Then S runs off after the director. She hands onto director's pant legs for a moment as he speaks to teacher. Then S runs off to join a group (4) of children at a nearby table. The children are folding paper into boats and puppets and coloring some of them. S leans over the table on her elbows just watching them. Finally, she takes a green crayon from the crayon box (after having picked up several and very excitedly colored (tested ?) on the edge of the box with them and thrown them right back into the box). S looks over to observer with a slight frown then leans on the table across another child. "John?" she asks, but never follows her address up with a question. She drops her green crayon, picks up a paper puppet, quickly (and apparently unsatisfyingly) manipulates it, and finally smashes it (crumbles it up) into the table. S hurriedly picks up her green crayon, makes a few rapid sideways scribbles on the crumbled puppet, then begins folding the paper again. Very soon she walks away from the table toward the block area. S dragged her feet and sticks her abdomen out as she walks.

#2

S is sitting at a table with one other child. S has just taken a box of table blocks from the shelf and emptied it confidently onto the table and said to observer: "I want you to play with me, now." S begins to build (see sketch). He places u-shaped outline seen in sketch down, then he begins to talk. "This is Santa Claus' house. He has a chimney on top of his house. He gots a lot of chimneys on top of his house. He gots 3 chimneys on top of his house. He's making toys. Here are his toys. He's putting toys inside his house. Okay, there are his toys." All of this
was said very matter-of-factly. S manipulates the cylindric-
al blocks he has used to represent chimneys, switching them
around, and finally knocking one down. "Oh, oh, knocked a
chimney off!" he said more loudly. S replaces the chimney
with deft fingers, then eagerly turns to observer and says:
"Let's make Santa, too, okay? And these are his toys. And
these are his toys. And these are his toys." S looks over
at observer as he repeats his statement. He seems to be
insisting that observer play with him (or at least give his
undivided attention) instead of recording. "Let's play with
Santa Claus. Let's play with his house and his toys." Adds
toys 4, 5, and 6. S plops the "toys" into position rapidly
and a bit carelessly, knocking other blocks out of position
as he does so. Then suddenly, he stands up and runs over
to the rug area, rapidly picks up an airplane (Fisher-Price
Airport set), and moving over a large area (standing), he
simulates airplane sounds with another child.

#3

S is walking around the room arm in arm with her friend.
The two girls lean their heads inward and giggle, then look
at each other, eyes twinkle, they cover their mouths to half
suppress giggles as they continue walking around. S says to
observer: "We're being mommies!" with a big smile. Both
giggle at this. "We're going for a walk." S says. Observer
asks: "Where are your babies?" "Oh, they're sleeping", S
replies. Then S adds rather quickly, "But we're just going
for a little walk and we'll go back and get them in a little
while." S and friend continue walking around the room with
the same giggling, hugging, leaning, and twinkling eyes.
The girls both move toward the door. The doors are flanked
by a glass panel in which the two girls can see their reflec-
tions. They stand at one glass panel, both of them lifting
up their shirts to expose their bellies to each other and
then to the window. S accidently bumps into the window with
her abdomen. She giggles more loudly and gives a little
shriek (is it cold? or just fun?) and then both of them begin
to intentionally bump their abdomens against the glass. This
behavior is accompanied by constant giggling and a bit of
shyness (heads leaning in a bit, bodies sort of leaning to-
gether on one side --perhaps to shield them from view of
others).
S is alone at a table in the center of the room. He has just emptied out a container of large Lego. He is quietly building up pieces on a truck carrier body. He places 7 layers almost uniformly and then starts applying "wings". "This kills people". He says quite undramatically. As quickly as he put them there, S removes the "cannons" (my word) and starts layering Lego pieces again. S works busily and intently. S does not look up and seems oblivious to what is going on in the remainder of the room. Once again, he adds wing-like pieces and then very soon afterwards removes them. His facial expression—remains serious (or at least without smile or obvious enjoyment). "Know where the driver is?" he asks the observer. "He's in this part", pointing to the top rear of the vehicle, "and the people are here", pointing to the lower front. "Brrmmmmmm" (simulates motor sounds as he slowly pushes the vehicle across the table. Throughout this time, S has rarely looked up or around—only when directly addressing observer). And when he did, he did so very briefly.

S is building with blocks on the rug. Both S and another child have each already constructed their own structures (unrecognizable to the observer) about 4 feet from one another. The two structures are connected by a string of double unit blocks (See sketch). Both are very much into their play when the observer begins to record. Both seem quite excited (speaking rapidly, excitedly, loudly, giggling, and making silly talk). S bouncily moves a clothes pin doll over the arch saying "They have to go to the bathroom", in a shrill, high-pitched tone. Then almost immediately he adds, "There's how you go into the sky" as the clothes pin doll is moved toward the high point of the arch. There, S propels it into the air as he simulates jet sounds. "I'm dead!" screams the other child (it is unclear to the observer what—if any—the context is for this statement). S says "I'm taking you on my back." At that point, S takes the other child's clothes pin doll and carries it rapidly across the roadway (?) to his own structure. The other child leans over to grab his clothes pin doll back, and in so doing, knocks down part of S's structure. "Look what you've done to my house!", S said angrily and pouting. The other child seems to ignore this outburst and repeats the episode of blowing the doll up into the air from the top of the arch. Then forgetting his distress over his structure being knocked down, S says loudly and excitedly "Where are they, where are they?" He falls over onto his stomach and from this position reaches for more clothes pin dolls. The other child
S says "I need something to eat", punctuating the word eat. S responds "Here it is in the kitchen." The other child says "I ate the whole turkey" in feigned amazement and with excitement. S and friend then swing their dolls through the air. It is unclear what (if any) representation is intended.

*S wanders into the art room, pausing at the door to watch another child, who is painting at the easel, and two other children who are drawing with chalk. "Guess I'll paint, okay?" says S. Without awaiting an answer, S carefully lifts smock from hook, carries it, bundled in his arms, to teacher. "Mrs. S., put this on for me?" Teacher helps him into smock and he bounces over to easel next to the other child. Looks into jars on her easel, looks at colors in his own jars. "I have red. And yellow too." he announces. Picks up a brush in each hand, hands rotate in opposite directions. Stops, still holding brushes aloft. Looks at paper and smiles. "That's the way spiders are made. Spiders are nice. When I was a snake, I was friendly with them and I liked it." Dips brushes into paint and resumes swirling motions, dripping paint with gay abandon. "I don't like to wipe on the edge of jars. I just do it this way. Don't you think I'm covering this whole paper up? I am." Dips brushes again. "There's hard painting at the bottom, teacher." (sediment) Inspects tips of brushes and paint drips off onto floor. Looks at teacher, frowning and worried-looking, "It's all right if paint gets on the paper, isn't it?" Waits, brushes held over tray, for reply. When reassured, he makes a few tentative jabs at the paper with the brushes. "That's all for me." Replaces brushes carefully incorrect colors, unbuttons smock slowly, and strips it off, dropping it to floor. (adapted from Cohen and Stern, 1958, p. 30)

S comes directly to the table on which teachers had prepared a basket of scissors, crayons, paste in a six-oz. jar with a spoon it in, and small 1/2 inch cups. The children were encouraged to help themselves to the paste and to put it in a cup. There was also a stack of paper and two aluminum plates filled with paper collage, string, and wool, and cloth collage in various shapes. "I wanna paste, I wanna paste, I wanna paste." Teacher, busy with another child, "Yes, S. It's D's turn now....It will be yours next. Help yourself, S" Standing in the same place, and not looking at teacher, S says, in
a babyish, whiny voice, "I wanna paste, I wanna paste." She looks along the table at the others who are cutting, crayoning, pasting. She moves around a child, and helps herself to the entire basket of crayons, placing it in front of her seat. She helps herself to paper, sits down, and makes a few crayon marks. As though realizing that this was not what she had planned to do, she calls, "Mrs. M?" Teacher: "Yes?" "I wanna paste." Teacher: "The jar is down at the end of the table, S." S goes for the paste and gives herself some. Back at her seat she pastes a piece of collage on her paper, helps herself to another piece, and pastes that. She works intently, lips parted. Spends more time than needed pushing her finger around and around in the paste on the paper, as though enjoying the feel of it. She pastes wool, lace, paper and cloth. A piece of string frustrates her. Teacher approaches. "May I help you?" S: "Yes," whiney and a little pouty. Teacher puts a short line of paste on the paper and lays the string on it.

(adapted from Cohen and Stern, 1958, p. 33)

S and another child are stacking large building blocks on the wagon. S: "Let's build a tiger house." He begins to stack blocks along the open side of a large box. The other child gets into the box. S: "You want to be the tiger in cage? I'll build a wall up to the top so you can't get out of the box." S playfully pushes him back and continues to build the wall. He talks all the time: "You are the tiger, I'll build a house so you can't get out. You are the tiger, you can't get out," etc. etc. He is not engaging in conversation. He does all the talking. The other child comes out of the cage, picks up the blocks, loads them on the wagon, and gets in. S gets into the wagon and gets right out: "This is not fire truck", (says S). S goes to the "cage" and gets in. The other child begins to build the wall, saying, "You can't get out." S pushes the wall over. The other child builds it back. S sits quietly for about 10 seconds and then moves about in the cage, saying "I can get out, I can get out." S watches as the other child builds the wall. "I'm looking out the window, _____. We can bite everybody, can't we, ____? Give me a chip to eat," "Tigers" roar as the other child moves the wagon away. S gets out of the cage and watches as another child comes up. S says to the other child, "Get in the cage." S goes in himself and pushes down the wall and then runs over to get in line to go outside.

(adapted from Hartley et al, 1952, p. 42)
S lost interest in the wagon and began to crawl around on the ground. Suddenly, he dropped flat on his stomach, and lay perfectly still. Another boy came over and lifted him back to his hands and knees by his stomach. This procedure was repeated 10 or 12 times, and then the other child shouted that he was a cat. Whenever any of the boys touched S, he got up from his prone position and started to crawl again. Finally, he got up on his feet and started to walk around with the boy who had been lifting him up throughout the cat play. For no reason that I could see, S suddenly struck out at this boy who then went away.... He went over to another child. They placed their heads together and then they both lay down on the bench and acted as if they were asleep. The other child "woke up" first and got off the bench. He and his girl friend went over to wake S up. S pretended to claw at them; off they ran, but they came back soon after. Then the 3 played together, all of them acting as cats, meowing and clawing at each other.

(adapted from Hartley, et al, 1952, p. 45)

S and two other children (girls) are washing small rubber dolls. They dry them and put them to bed. S goes to the block corner, starts to take out several blocks at a time and puts them in a pile. One of the girls comes up to him with her doll dressed. S returns to the doll corner and takes his doll out of the bed, turns the head to the front, and then returns to his pile of blocks, putting the doll down beside them. He starts to build a bridge, stops, picks up the doll, and hands it to another child. The second girls helps S build. He glances at the first girl as she puts the doll to bed. S and the 2nd girl now build a long road with square corners. S tries out a small wooden train on it. He cannot keep the train on the track while going around the corners so he now adds curved blocks.... Now S and the 2nd child each take a full armful of blocks and start to build houses with them. The first child (comes from dolls) takes a wooden train and crawls around S and girl. S stops and watches her, then dances around his building, adds more blocks, and calls it a house. He decides that one girl is the mother; the other is the child. He is the father. He returns to his building and adds an archway for the door. He helps the baby park the train beside the building. He returns to his building and adds a window.

(adapted from Hartley, et al, 1952, pp. 56-7)
S was playing with his twin sister. Sister began to push the carriage. S said, "Let me be the baby, sister," and started to talk like a baby. He got into the carriage. Sister pushed him around the room as he squinted his eyes and cried. She stopped the carriage, patted his shoulder, saying "Don't cry, baby." He squirmed around, put his thumb in his mouth, and swayed his body. Another child came to the carriage and wanted to push S. S jumped out and hit her in the face. She walked away almost crying. He went to her, put his arm around her and said in a sympathetic manner, "Come, you be the baby, I'll push you in the carriage." She climbed in. He ran and got the dog and gave it to her saying, "Here, baby." She smiled and began to play with the dog. He went to the housekeeping corner, got a cup and held it to her mouth. He smirked his lips, looking at her, smiling. He pushed her around in the carriage. Sister ran to him and said, "S, let me push the carriage. "I'll be the mamma, you be the daddy." S said "O.K.", and reached his hand in his pocket and gave her money. He said, "Bye, baby," waving his hand. He went to the shelf, took a hammer and a bed, then sat on the floor and vigorously nailed spokes in it. Sister pushed the carriage to where he was. She said: "What are you doing, S?" He said, "I'm making a bed." He looked at another child and smiled.

(adapted from Hartley et al, 1952, pp. 70-1)

S started to build a structure on the floor near another child. She stood two 5-inch blocks on end opposite each other and a little apart. Then she placed another 5-inch block across the top. She continued building in this way, but one block kept falling down. Finally she slapped it down very hard on the floor and exclaimed good naturedly, "Every time you fall down." Then she put it in place very carefully and it stood firm. She kept building. As she reached over past the structure and into the shelf to add another block, it suddenly fell down. S and the other child squatted on the floor mixing the blocks and pushing them gaily in all directions. S, on her knees, began to build the same structure again. As it got higher she called out excitedly, "Oh, look," and reached faster and less carefully for more blocks. Again the structure fell as she reached across it for more blocks and the 2 girls laughed heartily about the whole thing, and soon commenced their work anew. When S's structure fell a 3rd time, she laughed hysterically and excitedly pushed the other child's down. Still laughing, she and the other child built 2 more structures near each other. This time, S let her hand knock into the other child's blocks,
and when both structures began to crumble, she gave them a kick and jumped up and down, yelling and laughing. The two of them then built their structures back to back. S built hers faster than the other child, and while she waited for the other to catch up, another girl came up and asked, "Gonna let it fall again?" "Oh, yes," S answered happily.
The other child finished and they both dived into the structure knocking the blocks about, laughing more heartily and louder than before.
(adapted from Hartley, et al, 1952, p. 114)

#13

S sits for a while, looking around her. Then she stands making designs with her index finger in the dried-up clay on the board. Teacher comes over to the table and S says, "Give me my clay, now. Give me mine." When T gives it to her she smiles. She now has 2 chunks of clay, each about the size of a teacup. She takes a small piece, rolls it to make it look like a snake and puts it on another child's piece of clay. She sings "Happy birthday to you." T comes over and pours some water into a depression in each of S's two pieces of clay. S takes a piece of clay and rolls it in her hands and then in the water on the board, using 2 fingers. She squishes it around in her hands, rolling it some more. When the girl next to her takes a little piece, she says, "Stop it. Don't." She puts the clay back on her own board. She takes one of her lumps of clay and pats the whole thing consistently, flattening it out, a serious expression on her face. She sticks the index finger of her right hand into the clay about two dozen times. She takes a small piece, rolls it, and puts it in one of the holes. She says "Happy birthday." She makes more holes. She takes another bigger piece, rolls it snake fashion, breaks it in 2, and puts one half in another hole. She repeats, filling up the holes systematically....
(adapted from Hartley, et al, 1952, p. 201)

#14

S rests one long block over two others and sits and rocks on it like a seesaw. She gets up and arranges the blocks into a lopsided pentagon and stands in the middle, saying proudly, "Look at me, teacher." She carefully selects more long blocks and some smaller ones and fills in the center of the structure, placing the blocks in symmetrical order. Another child takes a block from her building. S looks after her and wails but sheds no tears. Observer tells the other child that it's S's block and other child throws it down. A third child, crawling by, accidently knocks over part of the building. S lets out a whiny groan, mutters...
something to herself about "doggie" followed by "not gonna bite me." She fixes the building, turns to the observer saying in a proud tone, "That's my house." She gets in and sits down. A block falls over and S grunts "Uh-oh," gets out, fixes the block, gets back into the house, and sits down. She adds more blocks and gets in again. She addresses the observer "Look at me." Now she lies down inside the house, curling up small, and looks up at the observer, grins with pleasure, and then sticks out the tip of her tongue. A little later she pretends to sleep.

(adapted from Hartley et al, 1952, p. 126)

REFERENCES


INSTRUCTIONS FOR JUDGES OF INTER-OBSERVER AGREEMENT

There are two means whereby we will attempt to establish inter-observer agreement for this study. The protocols of one (or more) child(ren) will be recorded simultaneously by the four observers. (1) You will provide an overall subject estimate of similarity between protocols of the observers. For this overall subjective rating (using the 5-point scale below), the following criteria will be used: (a) the extent to which it is clear to the judge that any pair of observers was simultaneously recording the behavior of the same child; and (b) the extent to which the judge receives the same general impression of the child's play behavior from any pair of observers.

Scale

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>almost no</td>
<td>slightly</td>
<td>moderately</td>
<td>quite</td>
<td>very</td>
</tr>
<tr>
<td>similarity</td>
<td>similar</td>
<td>similar</td>
<td>similar</td>
<td>similar</td>
<td></td>
</tr>
</tbody>
</table>

(2) The following describes the methods used to arrive at the second approach for estimating inter-observer agreement.

Preparing the Data to Be Judged for Inter-Observed Agreement.

Five content categories were defined on the basis of (a) the major behavioral areas defined in the observers' introductory training manual (i.e., movement, quality and rate of
movement, posture, gestures, facial expressions, verbalizations, uses of play materials, make-believe elements, and affect; and (b) the types of behavioral descriptors used as criteria in the three 5-point rating scales (imaginativeness, concentration, and affect) on which the actual data protocols are to be rated. The five content categories are listed below with directions as to what aspects of the protocols should be included under each.

1. **Movement:**

   - include any word or phrase that indicates actual movement
   - include low level movement indicators such as glances, smiles, blinks, leans, expressions indicating verbalizations, etc.
   - include indicators of static position, location, or postures—e.g., S remains standing, or staring
   - include indicators of quality and rate of movement—e.g., S moved quickly toward the door
     S deliberately and carefully stacked....
     S spoke loudly and angrily...
   - to avoid confusion over judgements concerning appropriate units of movement, use the smallest unit possible (even if it results in some redundancy).
     e.g., S picked up the block, set it on top...

   The purpose of this category is to make it possible for the rater of the protocol to be able to visually reconstruct the pattern (sequence, flow of movement) of the subject. See Movement breakdown example on page .

   CATEGORIES ARE NOT MUTUALLY EXCLUSIVE. This category, in fact, will overlap with the other four categories.

2. **Verbalizations:**

   The purpose of this category is to identify all instances of sounds produced by the subject, regardless of
whether they are intelligible, audible, sound, effects, nonsense, etc.

- include all quoted dialogue or monologue

- include any other references to verbalizations (this is likely to occur when observers cannot hear exact wording or content of the verbalizations)
  e.g., S whispers to friend (inaudible)
  S discusses pronunciation of word "potty" with other children at table--verbal interchange is too rapid to capture

- note that verbal indicators may also be recorded as indicators of movement, make-believe, affect, or uses of play materials.

3. Uses of Play Materials:

While this category will overlap to a great extent with that of make-believe elements and movements, there are a sufficient number of instances in which they will not overlap to warrant their being separate.

- include all uses or references to the manner in which materials are used
  e.g., S picks up block, puts in pocket, picks up another block, puts in other pocket, etc....
  S makes a road with blocks, puts a small car on road....

  S collects all available cookie forms and hides them in her cubby.

  S applies paint to center of paper, with light brush strokes, streaks paint outward in sunburst form.

4. Make-Believe Elements:

- include all clear-cut plus other low inference indicators of make-believe
  e.g., S wipes hands on imaginary towel
  S takes scarf and slings it over shoulders (pretending it's a cape) as he hollers "Here comes Superman!"
  "Let's pretend this is already Christmas day."
  "You can be __________ and I'll be _______." (roles)
  "Grrrrrr!!" said X as he clawed like a lion. (sound simulation)
"If you swear, your hair will all fall out!"  
(make-believe threats, irrational logic)

5. **Affect:**

- include all specific allusions by observer to affect of the subject.
- include all behavioral indicators of affect, particularly facial expressions
- include subject's verbalizations regarding his affect
- include verbalizations of other children regarding the subject's affect.

  e.g., S seemed happy  
  S smiled shyly.  
  S's eyes were downcast in shame (counts for 2)  
  S's face tightened with anger, his lips pursed, and his eyes blazed. (3)  
  "I hate it when you do that!"  
  "This is my favorite story."  
  Other child: "Look at S, I think he's gonna cry."

- Exclude from all of the above category breakdowns references to the behaviors of persons other than the subject.

**Procedures:**

On two separate occasions, the 4 observers will simultaneously observe one child for a continuous five-minute period. Each observer will independently write her observation notes in protocol form. The investigator will then "breakdown" the protocols into the 5 content categories described above. Each content category will be condensed on a separate sheet of paper. Condensations will resemble the examples on the next few pages. After the protocols have been broken down and organized in this manner, responsibility will turn to the judges. The task of the judges will be two-fold:
(1) To isolate units of behavior, and/or to group (or combine) units of behavior on some logical basis; and

(2) To "match" these units, or groups, across the 3 observers. Those units or groups that are not "matched" across observers will constitute differences between pairs of observers for the content category in question.

Percentages of overlap between each pair of observers for each content categories will be computed by the judges.

**Determining Single "Units" or "Groups"

The criteria for determining appropriate groups will vary somewhat for some of the content categories. For **Movement**, group together as a unit (group) only those behaviors that clearly express a single logical unit of behavior which one or more of the observers may have chosen to express in more minute units of behavior. The purpose of forming "groups" is to compensate for expressive differences between observers. That is, one observer may express a movement in all it's component parts, whereas another observer may express it as a global movement, state, etc.

**Example: Movement**

<table>
<thead>
<tr>
<th>Observer:</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>S walked around to the other side of the bookshelves</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>S reached out with her right hand</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>S selected a book</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>S pulled the book close to her</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>S fingered the book's cover</td>
<td></td>
</tr>
</tbody>
</table>
Matching:

After you have grouped them, "match" comparable units in each observer's column by assigning the same number to comparable expressive units. When a unit cannot be matched to one in another observer's column, assign it zero (0).

For Affect, determine units or unit groups on the basis of similarity (and differences) in the quality of affect. For this category, we will be less interested in chronological similarity of affect indicators across observers than in an overall similarity between types of affect. The matching (numbering) system will be consistent with this special grouping approach. That is, "smiling" units will be numbered the same regardless of whether they occur at the beginning, middle, or end of the listing. Similarly, "frowns" (or comparable expressions), will be numbered the same regardless of where they occur chronologically in the column of indicators.

Example: Affect

<table>
<thead>
<tr>
<th>Observer:</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>eyes large</td>
<td>smiles</td>
</tr>
<tr>
<td></td>
<td>wide smile</td>
<td>coyly</td>
</tr>
<tr>
<td></td>
<td>eyes twinkle</td>
<td>eyes bright</td>
</tr>
<tr>
<td></td>
<td>lips pressed firmly</td>
<td>frown</td>
</tr>
<tr>
<td>2</td>
<td>eyes stern</td>
<td>serious look</td>
</tr>
<tr>
<td></td>
<td>brows knit</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>smiles</td>
<td>eyes light</td>
</tr>
<tr>
<td></td>
<td>grins</td>
<td>slight smile</td>
</tr>
</tbody>
</table>
APPENDIX B

Instruments

1. Imaginative Play Predisposition Interview
2. Imaginativeness Rating Scale
3. Concentration Rating Scale
4. Affect Rating Scale
5. Early Childhood-Matching Familiar Figures
6. Draw A Line Slowly
7. Reward Selection Procedure
Instructions for Interviewer

Take a few moments to establish rapport with the child. Be sure the child knows your name. Proceed to each question initially as written below. Repeat the question if you do not appear to be understood. If the child replies too tersely, ask him a question such as "Tell me just how you play that" or "How do you do it?" If the child's first answer is at once clear, there is no need to pursue the question any further. Query only if it is unclear whether the child's response indicates some make-believe.

Remember that brief responses are not unusual for young children.

1. What is your favorite game? What do you like to play the most?
2. What game do you like to play best when you're all alone? What do you like to do best when you're all alone? Do you ever think things up?
3. Do you ever have pictures in your head? Do you ever see make-believe things or pictures in your mind and think about them? What sorts of things?
4. Do you have a make-believe friend? Do you have an animal or toy or make-believe person you talk to or take along places with you?

TAPE RECORD ALL RESPONSES!!!
1. Is extremely unimaginative in his play. Introduces no pretend elements into the play situation. Extremely stimulus-bound by the play materials.

2. Is slightly imaginative in his play, occasional introducing fleeting pretend elements into play situation, but does not stay with any pretend situation for very long. No originality or organization found in pretend situation. A few pretend elements added to otherwise very stimulus-bound play.

3. Shows a moderate amount of pretending in his play, but not very original or removed from the actual stimulus situation. Little organization or consistency of pretense or role-playing. No voice changes or simulated vocalizations. Considerable changing from one activity to another.

4. Shows a moderate amount of pretend elements in his play, spontaneously creating make-believe situations, showing some originality in his pretending, not changing activities very often. Some organization and consistency in pretense or role-playing, including some simulated vocalizations.

5. Shows high originality in the ways he uses toys and play material. A very high number of pretend elements in his play. High organization of activity and role-playing. Is able to go well beyond what the play stimuli in themselves suggest. Resists interruption of play by others.

AFFECT RATING SCALE

(Note that mild surprise, interest, and joy are viewed as positive affects and scored high)

1. Shows no interest or pleasure in the toys or play activities; much tangential behavior, conversations with observer, teacher and others; critical remarks about toys or play activities; no smiling, laughter, or evidence of pleasure in pleasure.

2. Shows only mild pleasure and interest in toys or play activities: much looking around and/or desultory manipulation of play material. Occasional smiling or laughter.
3. Shows moderate interest, pleasure and enjoyment of activities and toys; talking freely about the play activities; somewhat lost in quiet enjoyment, considerable smiling and/or laughter during activities: some animation.

4. Shows deep pleasure and interest in play activity, smiling or laughing frequently. Expresses frequent pleasure, describing spontaneously or acting out fantasies in play.

5. Shows extreme delight in play; laughing, singing, smiling; thoroughly enjoying self in play, reluctant to leave play situation.

CONCENTRATION RATING SCALE

1. Shows brief or little attention to or absorption in activities; aimless wandering, high distractibility, many questions to teacher; responding to noises or talk of children in room. Hyperactivity with no real interaction with play material.

2. Engages in superficial play with toys and play material while looking around the room, staring passively, talking to teacher, or wandering aimlessly. Changes toys and/or activities frequently.

3. Responds with moderate interest to the toys or play activities. Changes activities only once during the 5-minute segment. Some distractibility and no real loss of self in the play situation. Some response to outside stimuli such as noises and the talk and play of other children.

4. Shows good absorption in play activity; very little response to outside stimuli, no change of activity during 5-minute segment; no tangential behavior or conversation pertaining to activities other than the one at hand.

5. Shows intense absorption in play activity; stays with one activity for a long period of time; oblivious to outside stimuli, may not even respond to direct questions from teacher or children not included in the play situation at hand.
DIRECTIONS FOR ADMINISTERING EC-MFF

"I'm going to show you a picture of something you know and then some pictures that look like it."

Tester opens notebook to 1-T.

Tester points to the single picture of a striped circle on the child's left and says: "Look at this picture."

Tester brushes hand lightly and slowly over the two circles on the right and says: "Look at this picture. Point to the circle on this page that is just like this one" (Tester again points back to the page with the single striped circle on it).

Child makes a choice by pointing.

Tester corrects if necessary ("No, that's not it. It's this one.") or verifies the correct response by saying "Yes, this one is round (indicating with gestures the roundness of the circle) and has lines across it, and this one is round and has lines across it."

Tester turns the page to the second training pictures and uses the same words and gestures as in the first pictures. The tester corrects if necessary, but does not verify if the child makes the correct choice in this case. Once the tester is satisfied that the child grasps the instructions, s/he proceeds with the same instructions and the same gestures for the remaining test items. Tester avoids correcting incorrect responses with the remaining items.
DIRECTIONS FOR ADMINISTERING THE DRAW A LINE SLOWLY TEST

Give the child a crayon. Tester uses a crayon of a different color. Place an 6¼ × 11 sheet of paper on the table before the child. Say "I'm going to draw a line real fast." As the tester says "real fast", she draws a line very quickly (toward the child, from top to bottom of the page). Say "Now you draw a line real fast--right here" (showing the child where to begin the line, pointing to the top of the page). (Purpose is to give meaning to the words "fast" and "slow").

Turn the paper over and say "Now watch what I'm going to do." Draw a line slowly and continue talking. "I'm going to draw a line verrry sloowly...very sloowly...just as sloowly as I can." Take 20–25 seconds to draw the 8-inch line.

TIME THE FOLLOWING THREE ATTEMPTS (hundredths of a second)

"Now you draw a line just as sloowly as you can" (show the child where to begin the line, at the top of the page). The stopwatch is started when the child begins to draw. Stop timing if the child pauses, lifts crayon, etc. Then start timing again when the child begins again.

Give the child a second sheet of paper with X's 8-in. apart. "Now I want you to draw a line from here to here, just as sloowly as you can." Indicate where to start (center of the top X). Point to the top X and say "Start here."

Give a second sheet with X's. "I want you to draw a
line from here to here--this time even slower than the last time. Start here" (Top X).

Record times for each of the three trials directly on the sheet of paper used for each trial.
INSTRUCTIONS FOR ADMINISTERING REWARD SELECTION PROCEDURE

Say: "I'm so glad that you came to play games with me _______ (child's name)." I'd like to give you a little present. I have a box full of presents here. I'd like you to choose one.

Note which play materials chooses, in what order he chooses them, and what his final selection is.

Also note under "Comments" the child's general reaction to reward selection. Also note anything unusual he might say or do with regard to reward selection.

Record choices as the child makes them. Try to be unobtrusive.

EXAMPLE

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>crayons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>puzzle</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>coloring book</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>bubble set</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>finger paints</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>colored chalk</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>card game</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Final Selection: **clay**

Comments: Chose bright yellow clay. He said he'd like to have it but decided it would get dirty, so he chose dark green clay.

Didn't really seem to consider coloring book, cards, and finger paints.

Wanted to hide his present in his cubby. Didn't want any of the other children to take it.
Table 14

EXACT PROBABILITIES TEST FOR REWARDS SELECTION DATA

<table>
<thead>
<tr>
<th>Reward Selection x Treatment Group</th>
<th>Pre-Test</th>
<th>Post-Test</th>
<th>Final Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>p = .319</td>
<td>p = .68</td>
<td>p = .11</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Reward Selection x Fantasy Level^a</th>
<th>Pre-Test</th>
<th>Post-Test</th>
<th>Final Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>---</td>
<td>---</td>
<td>N.S.</td>
</tr>
</tbody>
</table>

^aObtained p values are not available for Reward Selection x Fantasy Level data because a Table of Critical Cell Values (Siegel, 1956) was used instead of calculating p values.
Table 15

SUMMARY TABLE OF UNWEIGHTED MEANS ANOVA FOR UPPSI VOCABULARY SUBSCALE SCORES

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatments</td>
<td>1</td>
<td>1.878</td>
<td>1.878</td>
<td>.34</td>
</tr>
<tr>
<td>Fantasy Level</td>
<td>1</td>
<td>3.211</td>
<td>3.211</td>
<td>.59</td>
</tr>
<tr>
<td>Treatments x Fantasy Level</td>
<td>1</td>
<td>5.378</td>
<td>5.378</td>
<td>.99</td>
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<tr>
<td>Error</td>
<td>14</td>
<td>76.328</td>
<td>5.452</td>
<td></td>
</tr>
</tbody>
</table>

Table 16

PRE-TEST CORRELATIONS OBTAINED BETWEEN IMAGINATIVENESS, CONCENTRATION, AND AFFECT RATINGS

<table>
<thead>
<tr>
<th>Correlation</th>
<th>r</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imaginativeness and Concentration</td>
<td>.41</td>
<td>p=.09</td>
</tr>
<tr>
<td>Imaginativeness and Affect</td>
<td>.56</td>
<td>p&lt;.01</td>
</tr>
<tr>
<td>Concentration and Affect</td>
<td>.55</td>
<td>p&lt;.02</td>
</tr>
</tbody>
</table>
Table 17

SUMMARY TABLE OF UNWEIGHTED MEANS ANOVA FOR
PRE-TEST IMAGINATIVENESS RATINGS

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatments</td>
<td>1</td>
<td>.114</td>
<td>.114</td>
<td>.86</td>
</tr>
<tr>
<td>Fantasy Level</td>
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<td>1.344</td>
<td>1.344</td>
<td>10.18*</td>
</tr>
<tr>
<td>Treatment x Fantasy Level</td>
<td>1</td>
<td>.087</td>
<td>.087</td>
<td>.66</td>
</tr>
<tr>
<td>Error</td>
<td>14</td>
<td>1.848</td>
<td>.132</td>
<td></td>
</tr>
</tbody>
</table>

*P<.007

Table 18

SUMMARY TABLE OF UNWEIGHTED MEANS ANOVA FOR
PRE-TEST CONCENTRATION RATINGS

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>$O^2_{est.}$</th>
<th>Rel. % of Total Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>1</td>
<td>.007</td>
<td>.007</td>
<td>.035</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Fantasy Level</td>
<td>1</td>
<td>.001</td>
<td>.001</td>
<td>.055</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Treatment x Fantasy Level</td>
<td>1</td>
<td>1.345</td>
<td>1.345</td>
<td>6.692*</td>
<td>.251</td>
<td>56</td>
</tr>
<tr>
<td>Error</td>
<td>14</td>
<td>2.814</td>
<td>.201</td>
<td>.201</td>
<td>.201</td>
<td>44</td>
</tr>
</tbody>
</table>

*P<.05
### Table 19
SUMMARY TABLE OF UNWEIGHTED MEANS ANOVA FOR PRE-TEST AFFECT RATINGS

<table>
<thead>
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<th>Source</th>
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<th>MS</th>
<th>F</th>
<th>$\eta^2$</th>
<th>Rel. % of Total Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>1</td>
<td>.036</td>
<td>.036</td>
<td>.23</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fantasy Level</td>
<td>1</td>
<td>.054</td>
<td>.054</td>
<td>.35</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Treatment x Fantasy Level</td>
<td>1</td>
<td>.128</td>
<td>.128</td>
<td>.84</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>Error</td>
<td>14</td>
<td>2.152</td>
<td>.154</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 20
SUMMARY TABLE OF UNWEIGHTED MEANS ANOVA FOR PRE-TEST SCORES ON EC-MFF

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>$\eta^2$</th>
<th>Rel. % of Total Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>1</td>
<td>.100</td>
<td>.100</td>
<td>.02</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fantasy Level</td>
<td>1</td>
<td>.544</td>
<td>.544</td>
<td>.08</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Treatment x Fantasy Level</td>
<td>1</td>
<td>2.500</td>
<td>2.500</td>
<td>.39</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>Error</td>
<td>14</td>
<td>--</td>
<td>6.406</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Source</td>
<td>df</td>
<td>SS</td>
<td>MS</td>
<td>F</td>
<td>$\eta^2_{est.}$</td>
<td>Rel. % of Total Variance</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----</td>
<td>--------</td>
<td>-------</td>
<td>------</td>
<td>----------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Treatment</td>
<td>1</td>
<td>.032</td>
<td>.032</td>
<td>.02</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fantasy Level</td>
<td>1</td>
<td>.693</td>
<td>.693</td>
<td>.45</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Treatment x Fantasy Level</td>
<td>1</td>
<td>.205</td>
<td>.205</td>
<td>.13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Error</td>
<td>14</td>
<td>21.560</td>
<td>1.540</td>
<td></td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>
Table 22

SUMMARY TABLE OF UNWEIGHTED MEANS ANOVA FOR EFFECTS OF TREATMENT A, FANTASY LEVELS AND TIME ON POST-TEST IMAGINATIVENESS RATINGS

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>$\text{O}^2_{\text{est.}}$</th>
<th>Rel. % of Total Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Treatment)</td>
<td>1</td>
<td>.016</td>
<td>.016</td>
<td>.138</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B (Fantasy Level)</td>
<td>1</td>
<td>1.193</td>
<td>1.193</td>
<td>10.193</td>
<td>.0589</td>
<td>12</td>
</tr>
<tr>
<td>C (Time: Pre-post)</td>
<td>1</td>
<td>1.335</td>
<td>1.335</td>
<td>11.408</td>
<td>.0668</td>
<td>22</td>
</tr>
<tr>
<td>AB</td>
<td>1</td>
<td>.410</td>
<td>.410</td>
<td>3.506</td>
<td>.0297</td>
<td>6</td>
</tr>
<tr>
<td>AC</td>
<td>1</td>
<td>.368</td>
<td>.368</td>
<td>3.146</td>
<td>.0250</td>
<td>8</td>
</tr>
<tr>
<td>BC</td>
<td>1</td>
<td>.765</td>
<td>.765</td>
<td>6.534c</td>
<td>.0696</td>
<td>14</td>
</tr>
<tr>
<td>ABC</td>
<td>1</td>
<td>.147</td>
<td>.147</td>
<td>1.252</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Error</td>
<td>28</td>
<td>3.276</td>
<td>.117</td>
<td>38</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a $p < .005$.

b $p < .01$.

c $p < .05$. 
### Table 23

SUMMARY TABLE OF UNWEIGHTED MEANS ANOVA FOR EFFECTS OF TREATMENT A, FANTASY LEVEL AND TIME ON POST-TEST CONCENTRATION RATINGS

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>$\Omega^2$-est.</th>
<th>Rel. % of Total Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Treatment)</td>
<td>1</td>
<td>.050</td>
<td>.050</td>
<td>.448</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B (Fantasy Level)</td>
<td>1</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C (Time: pre-post)</td>
<td>1</td>
<td>.606</td>
<td>.606</td>
<td>5.413(^b)</td>
<td>.0267</td>
<td>9</td>
</tr>
<tr>
<td>AB</td>
<td>1</td>
<td>.168</td>
<td>.168</td>
<td>14.975(^a)</td>
<td>.1740</td>
<td>39</td>
</tr>
<tr>
<td>AC</td>
<td>1</td>
<td>.012</td>
<td>.012</td>
<td>.105</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>BC</td>
<td>1</td>
<td>.024</td>
<td>.024</td>
<td>.218</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>ABC</td>
<td>1</td>
<td>.098</td>
<td>.098</td>
<td>.877</td>
<td>.0338</td>
<td>12</td>
</tr>
<tr>
<td>Error</td>
<td>28</td>
<td>3.135</td>
<td>.112</td>
<td>.1120</td>
<td>40</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) p < .007.

\(^b\) p < .05.
<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>$\hat{\eta}^2_{est.}$</th>
<th>Rel. % of Total Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Treatment)</td>
<td>1</td>
<td>.3021</td>
<td>.302</td>
<td>2.164</td>
<td>.089</td>
<td>5</td>
</tr>
<tr>
<td>B (Fantasy Level)</td>
<td>1</td>
<td>.121</td>
<td>.121</td>
<td>.870</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C (Time: pre-post)</td>
<td>1</td>
<td>.023</td>
<td>.023</td>
<td>.163</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>AB</td>
<td>1</td>
<td>.059</td>
<td>.059</td>
<td>.419</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>AC</td>
<td>1</td>
<td>.059</td>
<td>.059</td>
<td>.422</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>BC</td>
<td>1</td>
<td>.001</td>
<td>.001</td>
<td>.004</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>ABC</td>
<td>1</td>
<td>.065</td>
<td>.065</td>
<td>.467</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Error</td>
<td>28</td>
<td>3.909</td>
<td>.140</td>
<td>--</td>
<td>95</td>
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</tr>
</tbody>
</table>
Table 25

SUMMARY TABLE OF UNWEIGHTED MEANS ANOVA FOR EFFECTS OF TREATMENT A, FANTASY LEVEL AND TIME ON POST-TEST SCORES FOR EARLY CHILDHOOD-MATCHING FAMILIAR FIGURES

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>R²est.</th>
<th>Rel. % of Total Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Treatment)</td>
<td>1</td>
<td>1.606</td>
<td>1.606</td>
<td>.350</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B (Fantasy Level)</td>
<td>1</td>
<td>5.175</td>
<td>5.175</td>
<td>1.129</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C (Time: pre-post)</td>
<td>1</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>AB</td>
<td>1</td>
<td>5.175</td>
<td>5.175</td>
<td>1.129</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>AC</td>
<td>1</td>
<td>2.939</td>
<td>2.939</td>
<td>.641</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>BC</td>
<td>1</td>
<td>5.175</td>
<td>5.175</td>
<td>1.129</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>ABC</td>
<td>1</td>
<td>11.006</td>
<td>11.006</td>
<td>2.401</td>
<td>1.313</td>
<td>15</td>
</tr>
<tr>
<td>Error</td>
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<td>128.358</td>
<td>4.504</td>
<td></td>
<td></td>
<td>85</td>
</tr>
</tbody>
</table>
Table 26

SUMMARY OF UNWEIGHTED MEANS ANOVA FOR EFFECTS OF TREATMENT B, FANTASY LEVEL, AND TIME ON FINAL TEST IMAGINATIVENESS RATINGS

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>$O^{2}_{est.}$</th>
<th>Rel. % of Total Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Treatment)</td>
<td>1</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B (Fantasy Level)</td>
<td>1</td>
<td>2.457</td>
<td>2.457</td>
<td>28.569a</td>
<td>.1367</td>
<td>20</td>
</tr>
<tr>
<td>C (Time: post-fin.)</td>
<td>1</td>
<td>1.765</td>
<td>1.766</td>
<td>20.534a</td>
<td>.0960</td>
<td>22</td>
</tr>
<tr>
<td>AB</td>
<td>1</td>
<td>.263</td>
<td>.263</td>
<td>3.05</td>
<td>.0152</td>
<td>2</td>
</tr>
<tr>
<td>AC</td>
<td>1</td>
<td>.205</td>
<td>.205</td>
<td>2.378</td>
<td>.0084</td>
<td>2</td>
</tr>
<tr>
<td>BC</td>
<td>1</td>
<td>.133</td>
<td>.133</td>
<td>1.55</td>
<td>.0003</td>
<td>0</td>
</tr>
<tr>
<td>ABC</td>
<td>1</td>
<td>1.123</td>
<td>1.123</td>
<td>13.098b</td>
<td>.2330</td>
<td>34</td>
</tr>
<tr>
<td>Error</td>
<td>27</td>
<td>2.326</td>
<td>2.326</td>
<td>13.098b</td>
<td>.2330</td>
<td>20</td>
</tr>
</tbody>
</table>

a $p < .001$.

b $p < .01$. 
Table 27

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>$O^2_{est.}$</th>
<th>Rel. % of Total Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Treatment)</td>
<td>1</td>
<td>.2395</td>
<td>.2395</td>
<td>1.520</td>
<td>.0041</td>
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* $p<0.05$
Table 28
SUMMARY OF UNWEIGHTED MEANS ANOVA FOR EFFECTS OF TREATMENT B, FANTASY LEVEL, AND TIME ON FINAL TEST AFFECT RATINGS

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<th>Rel. % of Total Variance</th>
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*p < .05
Table 29

SUMMARY TABLE OF UNWEIGHTED MEANS ANOVA FOR EFFECTS ON TREATMENT B AND FANTASY LEVEL ON FINAL TEST EARLY CHILDHOOD-MATCHING FAMILIAR FIGURES

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* \(p < .01\)
### Table 30

Summary Table of Unweighted Means ANOVA for Effects of Treatment B and Fantasy Level on Final Test Draw-a-Line-Slowly Scores

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* $p < .05$
APPENDIX D

1. Description of Facilitator
   Verbal Sign System

2. Description of Subject
   Verbal Sign System

3. Description of Procedural
   Details regarding Analysis
   of Verbal Behaviors During
   Training Sessions
PROCEDURES FOR CODING FACILITATOR AND SUBJECT
VERBAL BEHAVIORS DURING INDIVIDUAL TRAINING SESSIONS

1. Randomly selected audio tapes were transcribed with facilitator and subject talk occupying the same time frame (See page 17 for an example).

2. Each utterance was coded according to the sign systems described on pages 2-16. The individual utterance (event) to which category numbers were assigned was defined in the following manner:
   (a) a verbal event (word, phrase, sentence) that expresses a logical thought as determined by context.
   (b) a verbal event followed by an audible pause (2-3 seconds).
   (c) a verbal event interrupted by another person, voice, character, or role.
   (See the sample transcript 17 for examples.)

3. The entire transcript was timed and marked off in units of 1-minute duration.

4. Using the recording forms (See samples on pages 18 and 19), a tally was recorded for a category whenever that category of verbal behavior occurred during the given 1-minute unit.

5. The sum of tallies in any one category was compared to total number of tallies for that transcription.
SIGN SYSTEM FOR ANALYSIS OF
PLAY FACILITATOR'S VERBAL BEHAVIORS
DURING INDIVIDUAL TRAINING SESSIONS

The system used is an adaptation of the Flanders (Flanders, 1970) system of interaction analysis. The subject response categories were eliminated (these were considered in a separate system for subject verbal behavior) and replaced by three categories more relevant to these data. The adaptation consisted of a subscripting of each of the first seven categories to permit differentiation between behaviors that modeled, elicited, or reinforced imaginative/symbolic, realistic, or sensory content.

Subscript \(a\): for verbal behaviors that model, elicit, or reinforce subject make-believe talk or talk indicating symbolic painting behavior or construction.

Subscript \(b\): for realistic verbal behaviors intended to model, elicit, or reinforce subject realistic verbal behaviors.

Subscript \(c\): for verbal behaviors intended to model, elicit or reinforce subject talk which makes reference to sensory experimentation with fluid materials.

1. ACCEPTS FEELINGS: accepts and clarifies the feeling tone of the subject in a non-threatening manner. Feelings may be positive or negative. Predicting or recalling feelings are included.
(a) Feelings may be make-believe (i.e., attributed to a make-believe character or to a doll) or they may be feelings that the subject experiences as he engages in make-believe.

Examples: Subject makes a child doll say:

"Mommy, mommy, I'm afraid of that big lion!"

F: "The little girl is really afraid of the lion. She doesn't like seeing it very much at all."

Subject manifests anxiety during "wild" dramatic play episode.

F: "The children (dolls) were being too naughty and you weren't quite sure how to make them be good."

(b) Feelings are realistic and not directly related to make-believe.

Examples: "You really don't want to play with the dolls right now."

"You liked that so much you'd like to do it again next time."

(c) Feelings are related to sensory experiences with fluid materials. The feelings may be positive or negative.

Examples: "You're afraid you're mommy won't like this paper because she might..."
think it's messy."
"You like that blue paint best of all because it's the gooeyest."

2. **PRAISES OR ENCOURAGES**: praises or encourages student action or behavior. Jokes that release tension, not at the expense of another individual, nodding head or saying, "uh-huh?" or "go on" are included.

(a) Praises or encourages make-believe behavior.
Examples: "I like the way you had the mother dolly tell the children to get ready for school."
"That was a really exciting make-believe story!"
"You're really good at making ferocious lion sounds."

(b) Praises or encourages realistic behavior.
Examples: "You're really good at remembering to set the timer each time you come."
"I'm glad you came today."

(c) Praises or encourages behavior that indicates experimentation with sensory qualities of fluid media.
Examples: "It's beautiful when you paint with both hands!"
"I like it when you try all sorts of new things with play-doh—when you punch it, pull it," etc.
4. **ASKS QUESTIONS:** asking a question about content or procedure with the intent that a student answer.

   (a) Asks questions with make-believe content or intended to elicit a make-believe response.

   Examples: 
   
   F: "What does the mommy say when she sees the pig in the living room?"

   F: "What is that fireman going to do with that ladder?"

   (b) Asks questions with realistic content or intended to elicit a realistic response.

   Examples: "What would you like to choose to play with now?"

   "Do you have enough blocks?"

   "Have you set the timer?"

   (c) Asks questions referring to the subject's sensory experiences/experimentation with fluid materials.

   Examples: "What would happen if you scratched that paint with your fingernails?"

   "How does the finger paint feel? Is it cool?"

   "Hey, what's happening to the yellow and blue?"

5. **LECTURING:** giving facts or opinions about content or procedure: expressing his own ideas, asking rhetorical questions.
3. **ACCEPTS OR USES IDEAS OF STUDENT:** clarifying, building, or developing ideas suggested by a subject. As a facilitator brings more of his own ideas into play, shift to category five.

(a) Accepts or uses subjects' make-believe ideas.

Examples: S: "He's taking a bath."

F: "He's tired of playing so now he's going to take a nice long bath. He may want his rubber duckie."

(b) Accepts or uses realistic subject ideas.

Examples: S: "I'm gonna move this over here."

F: "That's in your way, so you'd like to move it over to make room for play-doh."

S: "The bell rang."

F: "That means it's clean-up time!"

(c) Accepts or uses subject ideas/reactions to sensory experiences with fluid materials.

Examples: S: "I wanna put green all over this paper."

F: "You need a lot of green paint to put all over this paper."

S: "This yellow play-doh is too hard—I can't mush it."

F: "This yellow is too hard to work with. We need new yellow!"
(a) giving make-believe information, modeling make-believe either on a short-term (1 verbal event) basis or on a more extended basis (several successive verbal units of modeling make-believe).

Examples: "This can be the mommy."

"This can be the barn where the animals live."

"Mommy, can I go out to play? Not right now, dear. You have to finish your breakfast first. Mommy, I'm full; I don't want anymore pancakes." etc.

(b) gives realistic information about the playroom contents or procedures to be followed.

Examples: "When we come to the playroom, we always set the timer at 25 minutes."

"I choose the first things we play with and then after that, you get to choose something that you'd like to play with."

"You need to push your sleeves up and put the smock on."

(c) gives information regarding the sensory properties or the quality of the sensory experience that can be had.
"Stand up, please, so I can lay newspapers on the carpet."

"Tell me what you'd like to do."

(c) giving directions that require the subject to respond or that tend to elicit responses regarding the sensory properties of play materials or the sensory experiences they are or might have."

Examples: "I want you to put your hands on top of mine while I paint."

"Now you need to make my hands move in the paint."

"Try your little pinkie in there."

7. CRITICIZING OR JUSTIFYING AUTHORITY: statements intended to change subject behavior from nonacceptable to acceptable pattern; bawling someone out; stating why the facilitator is doing what he is doing; extreme self-reference.

(a) criticizing the manner in which the child handles make-believe experiences—used in instances in which a child seems to be "wild" or "out-of-control" in his make-believe play.

Examples: "I can't let you have the elephant destroy the other animals. You'll need to control that elephant. You need to make him a nice elephant."

"Your truck is having too many accidents and hurting too many
people. You'll need to have the
man drive it more carefully."
"If you can't calm him down, I'll
have to help you."

(b) criticizes the manner in which the child han­
dles realistic aspects of the play-room ex­
perience.
Examples: "I'm sorry, but when the bell timer
rings it's time for us to clean up
so other children can have a turn
to play."
"I don't like it when you throw
the blocks down so hard in the box.
You need to put them in more care­
fully so that they don't get
broken."

(c) criticizes the manner in which the child han­
dles sensory experiences—used in instances
in which the child seems to be getting "wild",
or losing control of the play medium.
Examples: "I can't let you splash the paints
on the walls."
"You need to stop throwing the
play-doh balls around. Play-doh
is not for throwing."

8. **UNCATEGORIZABLE TALK**: hesitations, aborted sen­
tences lacking sufficient content to categorize,
"unattached" expletives whose meaning cannot be
Examples: "One nice thing about finger paints is that you can be very, very messy with them and then everything washes right off easily."

"When I use my knuckles, I can make a big white line in the paint."

"The paint stays nice and smooth and spreads easily when we use a lot of it."

6. **GIVING DIRECTIONS**: directions, commands, or orders to which a subject is expected to comply.

(a) giving directions that require the subject to with make-believe behavior.

Examples: "I want you to make the **dolls** tell the story."

"You need to make Farmer Brown feed all the animals, now—they're hungry."

"Now that you've built a very nice house for the family of dolls, I want you to make up a story about what the dolls do in that house."

(b) giving directions that require the subject to respond with realistic behavior.

Examples: "You need to set the timer before we start with the mirror games."
determined from the immediate context, unintel-
ligible utterances.

9. **TANGENTIAL TALK**: initiates or responds to talk
that is irrelevant to the contents and/or
processes of the playroom.

10. **SILENCE**: pauses, short periods of silence.

**SIGN SYSTEM FOR ANALYSIS OF**
**SUBJECTS' VERBAL BEHAVIORS**
**DURING INDIVIDUAL TRAINING**
**SESSIONS**

1. **AGREES**: agrees or complies, or indicates willing-
ness to comply with a directive from F; verbal
indications that S is attending to F.

Examples: "OK, uh-huh, alright, yeah, yes."

Complies by reciting finger plays along
with F when instructed to do so.

"I will."

2. **DISAGREES**: disagrees, refuses, corrects, denies,
rejects. May simply indicate independent behavior
but in some cases indicates a higher inference
lack of willingness to comply for its own sake or
for other reasons.

Examples: "I don't want the chair in there! It
goes in the kitchen!"

"I don't want to paint."

"That's not how you make a barn!"

"No."

3. **ASKS FOR/GIVES REALISTIC INFORMATION**: includes
providing realistic labels and giving instructions
to F.

Examples: "How much more minutes do I got to play?"

"Where's the toy car?"
"I can't find the baby doll."
"This is too hard."
"A tiger...a duck...(labelling)
"You can watch me make this."
"Hold this, please."

4. **VERBAL REACTIONS TO SENSORY EXPERIENCES:** occurs primarily in experiences with paints and play-doh. Tone of voice and context will be critical clues in determining whether the reaction is positive or negative.

(a) Positive: suggests that experiences with sensory properties of play materials are positive for S.

Examples: "This is nice and sticky-icky!"
"Look how shiney this blue is!"
Indicates desire to experiment with the play medium beyond the specific directives provided by F.

(b) Negative: suggests that experiences with sensory properties of play materials are unpleasant, bothersome or anxiety-provoking.

Examples: "Yuk!"
"Take this off me!"
"This smells stinky."
"I wanta wash my hands right now."
"My mommy doesn't like me to do this messy stuff."

5. **ENJOYMENT:** includes direct expressions of enjoyment as well as higher inference indicators that S is having a positive reaction to an experience
(other than those specifically referring to aspects of category 4). Requests an activity different from the on-going one. Tone of voice is an important clue in this category.

Examples: "Weeeee!"

"I like this."

"Can we do this again?"

"I wanta build now."

Hums or sings

6. **TANGENTIAL TALK:** makes comments that are irrelevant to the contents and/or the proceedings in the playroom.

Examples: "Know what? My grandpa's coming to visit this weekend."

"I'm going to Betty's house after school today."

7. **UNCATEGORIZABLE TALK:** includes hesitations, unintelligible utterances, nonsense sounds, aborted utterances that don't provide enough content to place them in other categories, expletives and screams that have no obvious meaning in themselves and/or which cannot be clearly assigned to other categories from the immediate context.

Examples: "Uhm..." (hesitation)

"This one..." (aborted)

"I uhm..." (aborted)

"There!"

"OK."

"Doo-bee-doo-bee..." etc.

8. **CONSTRUCTION:** using blocks and/or furniture and/or play-doh in such a way as to verbally suggest plans to construct, or to refer to the process or products of construction.
Examples: "I wanta make a house."

"We needa make another garage for this family."

"...put this here and this on top..."

"Hand me the long block over there for the door, please."

"I'm all done making my barn."

"This is my best zoo!"

9. REPRESENTATIONAL PAINTING/COLORING: using paints and/or crayons in such a way as to verbally suggest plans to paint, or referring to a symbolic product, or to the process of producing a symbolic product.

Examples: "I wanta make flowers and trees over here."

"I'll need blue to make the sky."

"I just need to put a little more blue on this cloud..."

"Here's the house...."

"This is a picture of a little girl...."

"Hey, I made a whale!"

10. MAKE-BELIEVE: indications that reality is being suspended or transcended in some manner.

(a) assigns roles:

Examples: "This can be the mommy."

"I'll be the doctor...."

"You can be the baby...."

(b) establishes a make-believe set; talking about make-believe situations in the third person, without actually assuming or assigning the roles or using make-believe voices.
"Let's pretend...."
"Make-believe...."
"The daddy just got up and he's hungry."
"This mommy has to go to work so she tells the children to hurry up and eat breakfast."

(c) assumes make-believe voices such that one can infer that the subject has assumed a role other than his own or is assigning one to a doll. Both content and tone of voice are clues for this category.

Examples: Subject speaks in baby talk while moving the baby doll around.

Male dolls are made to speak in low, gruff voices. Female dolls "speak" in high voices.

"Children, you can go out to play."

(d) simulates sounds, animal, mechanical, or other.

(e) engages in make-believe use of toys—i.e., using toys for functions other than the realistic ones for which they were intended.

Examples: Uses block as T.V. or car.

Uses tongue depressor as spoon to stir make-believe (play-doh) cookie dough.

Note: This category is distinct from category 8 in that a single toy is used to represent versus several toys used in relationship to one another to construct.

(f) uses imaginary toys—verbal indications that S is acting in a make-believe situation with totally imaginary props.
Examples: Girl wipes her hands on an imaginary cloth.
S says: "Put your coat on mommy" (S may then assist the mommy in putting on a totally imaginary coat.)
OK.

You want to what?

OK.

It's up to you.

Pause.

Well,

Pause

What room would you like to start with?

OK.

This can be the kitchen.

And here's the table.

And here are the chairs.

Pause

And let's make a stove.

Pause.

Alright.

Toaster goes here.

I wanna play with the toys.

I wanna play with the black.

I wanna play with the black people.

How do you make a house?

Mmmm....

Maybe the kitchen.

Use this.

No, it's supposed to go here.

This is...this is... (inaudible) goes in the family room.

etc.
APPENDIX E

1. Advertising Flyers

2. Debriefing Letter for Parents
AN EXPERIMENTAL STUDY OF PLAY BEHAVIOR WILL BE CONDUCTED SPRING SEMESTER (1977)

NEEDED for this study are:

(A) PLAY OBSERVERS to be trained by the investigator to observe the spontaneous play of 4-year olds.
   Time Commitment: negotiable to some extent
   About 8 hrs. of training
   A few hours in mid-January
   A few hours in mid-April
   Will pay $3.00 per child

(B) TESTERS to be trained by the investigator to administer 5 simple scales.
   Time Commitment: negotiable
   Should have experience with young children
   Will pay $1.00 per child

FOR MORE INFORMATION
CALL: DEE LAMB 344-7605 SOON!

Advertizing Flyer
Dear Parents,

I had hoped to speak to many of you at the pot-luck dinner on May 4. Unfortunately, my husband, little girl and I have all been ill, and so we were unable to attend. I want to thank you for allowing your child to participate in my imaginative play project. And now that the play experiences and data collection phases of the project are complete, I can share with you my basic objectives and methods. The paragraphs that follow briefly describe both.

You probably remember that each participant had 6 half-hour individual sessions in the "special playroom" with me. This was followed by 3 more sessions in groups of 3 children. The playroom was equipped with finger and easel painting materials, blocks, miniature doll families, miniature zoo and farm animals, and doll house furniture. For the group sessions, a few home-made props were provided.

Perhaps the simplest way to explain is to describe methods and purposes in terms of types of play materials. The types of materials available in the playroom might be grouped into two types:

1. The first type included finger paints, easel paints, crayons and playdoh. Four purposes guided experiences with those materials:

   (a) By making suggestions and supportive comments, and by demonstrating, I tried to encourage the children to freely explore all the possibilities of the materials--e.g., with finger paints, to use hands as well as fingers, to use a broad range of colors, to mix colors, to use the entire paper, etc.

   (b) An equally important objective was to teach the children how to control the materials--i.e., how to avoid making inappropriate messes, how to avoid "getting wild" with the play materials ("I really like the way you keep the paints from splattering on the furniture", or "You need to stay on the paper", etc.).

   (c) I also tried to have the children expand their span of attention as they played with these materials. I made suggestions, instructed, and demonstrated other things they might try to do with the materials--e.g., "I wonder what would happen if you scratched the paint with your nails", "I'd like to see you use both hands now", or "I think I'll try making a design with my whole hand".

   (d) Enlovement of the play process was an objective of primary importance. I commented frequently on how nicely they were doing, on how nice the materials felt (e.g., "cool", "squishy", etc.). I also made frequent comments indicating how much I enjoyed playing with these materials. We sang, hummed and laughed together as we played.
(2) The second group of materials included the blocks, dolls, animals and doll house furniture. With these materials, there were three major purposes:

(a) The first major purpose was the development of imaginative (i.e., make-believe, or pretend) dramatic play. I encouraged the children to pretend as much as possible. More specifically, I helped them construct settings (e.g., houses, barns, hospitals) and then I helped them develop make-believe stories taking place in these settings. By suggesting, directing and demonstrating, I tried to teach the children to "make the dolls tell the story"—i.e., to have the dolls relate the story in different voices, assuming different roles. I also tried to teach the children to develop their make-believe stories so that they actually had a beginning, a middle, and an end.

(b) With this second group of materials, enlarged span of attention during the dramatic play process was also a basic concern. My comments, suggestions and demonstrations were aimed at showing the child how he might extend his pretend story.

(c) As with the first group of materials, enjoyment of the play process was a basic objective.

During the group-phase (the last 3 sessions) groups of 3 children were brought together in the playroom. None of the regular playroom materials was available then. Only a few life-size props were provided. The objectives were similar to those described for dramatic play above except that the children were using life-size props, had to "play the daddy or mommey or baby or doctor roles themselves (rather than have miniature dolls play them). In addition, the children also had to deal with the social problems of planning and negotiating that arise when children play in a group (e.g., assigning roles, planning the course of the pretend story, etc.).

I am beginning the process of sorting, organizing and analyzing the data. That process will consume most or all of this summer. However, I do want to make my findings available to you by the end of summer. If you would like to have a report of the basic findings, please complete the form below and return that information to Bonnie. I will be in touch with her.

In addition, if you would like to talk with me about your child's specific responses to the play experiences, I will set aside time during the week of May 16-20 to talk with you either by phone (324-7605) or in person. If you would prefer the latter, please phone me to make an appointment. We can meet and talk at Garber Children's Center if that would be most convenient for you.
Thank you again for entrusting your child to me. I thoroughly enjoyed working with each of the children.

Sincerely,

Deanna X. Lamb
("Miss Dee")

Yes, I would like to have a report of the basic findings of the play project in which my child participated.

Name ________________________________
Street & Number ________________________________
City ___________________________ Zip ____________
Telephone ____________________