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STRUCTURE AND CREATIVITY IN EARLY

CHILDHOOD EDUCATION

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I. INTRODUCTION

With the arrival of Head Start,[1] interest and research in early

childhood education have increased almost explosively. The literature

abounds, now, with descriptions of new educational programs designed,

primarily, to facilitate the young child's cognitive development. These

vary from highly-teacher-structured programs such as the Bereiter-

Engelmann (1966) emphasis on language development, to the child-

structured, action-mediated "traditional" setting, with its large blocks

of time for self-selected activities with toy materials. Along the continu-

um, to mention a few, are: the Montessori program (a structured, action-

mediated approach, using self-correcting materials designed for sequen-

tial conceptual development) (Rambusch, 1962); Omar Moore's (1966,

1969) "clarifying environments" (similarly structured, and action-

mediated, with especial use of a "talking" typewriter designed to promote

sequential conceptual development through programming an unequivocal

response to the child's action upon it); Herbert Sprigle's (1968-69) Learn-

ing-to-Learn program (a combination of the traditional preschool setting

with special materials and activities designed to provide an orderly

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[1] Head Start is that part of President Lyndon B. Johnson's federal poverty program of the 1960's designed for the education of preschool children of low-income families.

sequence of growth from motor to perceptual to symbolic levels, as suggested by Piaget). The federal program for "graduates" of Head Start, Follow-Through, indicates a number of early childhood education models from which grant recipients may choose in designing their program (Egbert, 1970). Latest policy directives to Head Start personnel indicate that the same kind of choice of early childhood education models is to be made available to Head Start programs (Klein, 1970). Thus, evaluation of alternative models in early childhood education is of concern both to administrators of programs for young children, but more significantly, to university educators preparing teachers of young children.

Thus far, programs are being evaluated on cognitive bases, most commonly by use of intelligence or achievement test scores. This writer would like to raise the question of evaluation on the basis of creative activity, particularly that element characterized by the child's self-structuring of personally meaningful tasks and their attempted resolution. The young child in free play, for instance, imposes personally meaningful structure on the play materials at hand, setting himself tasks whose resolution he then attempts.

In particular, meaningful structuring in the presence of a multiplicity of stimuli is of crucial concern with regard to "disadvantaged" children, who may be exposed, in their home situations, to overwhelming stimulation, and in addition, may live with parents whose energies are so depleted by realistic problems in many areas of life, as to make them virtually unavailable to the child as structurers of such stimulation.

Pavenstedt (1965), for instance, reports differences among children of the slums in their ability to make use of a preschool enrichment program: in her study, children from the upper extreme of the lower class were able to use the materials and experiences of such a program to enrich their functioning, while children from multiproblem families at the lower extreme of the lower class were simply overwhelmed by the very richness of the program. The latter seemed unable to organize the program's stimulation sufficiently to integrate it into their ongoing functioning.

Kris (1955) suggests that children learn to structure, first through their relationship with a meaningful mothering person: as the mother structures for the child, so the child learns to structure for himself -- provided he has a relationship with a consistently available mothering person whose concern for him he feels. Mattick (1965), for instance, describes in detail, the difficulty in effective use of play in the child from the multiproblem family who hasn't had stable mothering. The children in her preschool setting had first to establish a meaningful dependent relationship with a trusted adult in the school situation before they could genuinely make use of the educational materials of the preschool. Kris (1955) further suggests that the child who has had a positive dependent relationship with a meaningful mothering person can then begin to learn structuring through the structure of the play activity itself. Hull and Kallet (1963), in their study of alternativity with young children, give further support to the importance of the activity's structure in

making complexity meaningful. Their five-year-olds, using materials with many (but clearly identifiable) attributes, in an open-ended situation, were able to encompass, in their problem solutions, the complexity of alternative solutions.

What, then, might be the effect of three specified kinds of preschool programs on the child's learning to structure: the carefully programmed, verbally-mediated curriculum; the highly-structured, action-mediated curriculum; the open-ended, loosely-structured, action-mediated curriculum. Is one more helpful than another in making complexity meaningful to children of parents who do not teach the child to structure? Is the carefully programmed curriculum more effective in teaching this child to organize complexity, or does it, despite its clarity, offer insufficient opportunity for the child to become an independent structurer? If the former, what is the nature of the child's adaptation: is his ability to structure stable or easily subject to disruption? Does the open-ended curriculum, although providing freedom for the child's expression of structure, contain such a multiplicity of stimuli as to prevent this child from learning to structure at all?

This study, therefore, wishes to consider the effects of preschool curricula of differing structure on the creative play, that measure of the child's independent structuring of environmental complexity, of children whose parents are unavailable to serve in a differentiated manner as structurers of stimulation. Each of the elements, creative play, and structure, must be examined further.

Creativity: Form and Content

Creative Play: Form

It is the Piagetian theoretical framework (Piaget, 1952; Piaget,

and Inhelder, 1969; Baldwin, 1967; Flavell, 1963) which is perhaps most

helpful in delineating the _form_ of creative play.[1] Symbolic play, "a sys-

tem of signifiers constructed by (the child) and capable of being bent to

his wishes" (Piaget and Inhelder, 1969, p. 58), is seen as one type of

the symbolic function.[2]

By the end of the six stages of the sensory-motor period (at about

age eighteen months), the child has accomplished, in sensory-motor

activity, "...the transition from an initial state in which everything is

centered on the child's own body and actions to a 'decentered' state in

which his body and actions assume their objective relationships with

reference to all other objects and events registered in the universe"

(Piaget and Inhelder, 1969, p. 94). With respect to direct action upon

reality (sensory-motor actions), the child is able to operate "...in a

universe of permanent objects structured according to its own groups of

spatio-temporal displacements..." (Piaget and Inhelder, 1969, p. 94),

instead of a universe of which he is the center and whose attributes are

understandable only in their relationship to him. It is this change which

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[1]Since Piaget's term is "symbolic play," that term will be used
throughout this section. In this study, the two terms are synonomous.

[2]The others: deferred imitation, graphic imagery (drawing),
mental imagery, language.

is called "decentration," and it is the task of the pre-operational period
(roughly ages two to seven years)[1] and the concrete-operational period
(roughly ages seven to eleven years) to accomplish decentration in repre-
sentational thought as it has earlier been accomplished in sensory-motor
activity. It is during the pre-operational period, and through the media-
tion of the symbolic function, that representational thought, itself, devel-
ops. Symbolic play is, therefore, one form of the symbolic function,
through which representational thought, the necessary precursor to de-
centration in mental functioning and thus adult mental operations, occurs.

It would perhaps be helpful, at this point, to take account, also,
of Piaget's notion of equilibrium. According to his formulations (Piaget
and Inhelder, 1969; Flavell, 1963), each behavior has aspects of both
assimilation[2] and accommodation[3] which are ordinarily in equilibrium.

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[1]It should be emphasized that Piaget's use of ages is meant to be
suggestive, only. It is the stages of development he claims are invariant,
not the ages at which he suggests they most usually occur in Western
children.

[2]Assimilation: "...an interpretation of something in external real-
ity, that is, an assimilation of that something to some kind of meaning in
the subject's cognitive organization..." Assimilation "...refers to the
fact that every cognitive encounter with an environmental object neces-
sarily involves some kind of cognitive structuring (or restructuring) of
that object in accordance with the nature of the organism's intellectual
organization." (Flavell, 1963, p. 48).

[3]Accommodation: the adaptation of the self to reality, "...coming
to grips with the specific properties of the thing apprehended... The es-
sence of accommodation is precisely this process of adapting oneself to
the variegated requirements or demands which the world of objects im-
poses upon one." (Flavell, 1963, p. 48)

It is characteristic of the pre-operational period, however, that behaviors are not in balance with respect to assimilation and accommodation: they are either primarily assimilative or accommodative. Of the five forms of the symbolic function, all except symbolic play are primarily accommodative; only symbolic play, in its use of idosyncratic personal symbolism, is assimilative. Thus, symbolic play is not only one form of the symbolic function necessary to representational thought; it is the only form which is assimilative, which makes consistent use of personally idiosyncratic symbolism.

The function, then, of symbolic play is to assimilate reality to the self while freeing it from the demands of accommodation, and it is primarily in affective areas that this function is manifested (Piaget and Inhelder, 1969). It is this manifestation in affective areas which brings up the final notion to be considered in this section: that of Erikson's (1937, 1940, 1963) "play disruption." With respect to symbolic play, in which the child masters reality by re-creating it actively in play, Erikson notes that it is possible for affect to become "... so intense that it defeats playfulness... (This) failure is characterized by...play disruption, i. e. the sudden and complete or diffused and slowly spreading inability to play" (Erikson, 1963, p. 223). The child detaches himself from the play materials, sometimes leaving the area of play, sometimes sitting passively and silently where he is.

The young child's creative play is seen, then, as a form of the symbolic function necessary to the development of representational thought.

It is that form which permits the child to impose his own idiosyncratic meaning on the reality he represents symbolically in his play activity. When he deals with affective realities, as much of symbolic play does, such intensity of affect may occur as to defeat playfulness, to make it necessary to stop playing, temporarily. Erikson has labeled this temporary stoppage, "play disruption."

The next section will deal with the affective content typically found in the symbolic play of the young child.

Creative Play: Content

If it is Piaget's work which is most helpful in delineating the form and function of creative play, it is to Erikson and other psychoanalytic writers that this study looks for elucidation of the content of creative play.

Erikson (1963) describes three levels of development during the preschool years: the first, of basic trust; the second, of autonomy; the third, of initiative. The first period, occurring in earliest infancy, is one, he suggests, characterized by behaviors of dependence on the mothering person and, if she is able to meet the infant's needs, of trust in her, and by extension, the environment. The infant's primary orientation to the world is one of incorporation, or in Benedek's (1952) term, receptiveness, at first through the mouth alone, then through other sense organs, as the eyes, ears, skin become receptive and hungry for stimulation. This occurs in both passive and, after dentition, active fashion,

as the child both literally and figuratively sinks his teeth into what is given him by the environment. The teeth bite, the eyes focus, the ears localize sound, the arms reach out to grasp. (Erikson, 1963; Mahler, 1965). Blos (1962), Benedek (1952), A. Freud (1965), and Mahler (1963, 1965) all elaborate the importance of the mothering person as a need-meeting person: if the mother is able to read the infant's signals and satisfy his needs, he learns to trust the environment and the above behaviors develop. Quite specifically, it is the feeding relationship which is seen as the prototype of all later receptive behavior (Blos, 1962) and as the setting in which incorporative behavior spreads to the other senses such as vision (Benedek, 1952).

This, then, is a time when, with the mother's help, the child develops an attitude of receptiveness toward the environment, and some basic skills in using his sensory equipment to receive. If it proceeds well, the child becomes trustfully receptive, and especially so in the specific sensory modalities encouraged by his mother's unique patterns of care. It will be expressed in the child's symbolic play in an exploration of receptiveness, especially that concerned with feeding and mothering.

Erikson's second period, occurring as the child learns independent locomotion, is characterized by behaviors of developing autonomy and independence of the child from the mothering person. In addition, this alternating dependent-independent relationship between child and mother is further complicated by cleanliness training. Thus, the child's tasks are two-fold: to achieve a perception of himself as a person separate

from the person of his mother, despite his dependence on her to sustain

his life; and, in the context of alternating dependence and independence,

to learn to exercise body mastery with respect to cleanliness in a way

acceptable to his society. Both Erikson (1963) and A. Freud (1965) de-

scribe this as a period of ambivalence or alternativity; and Erikson elab-

orates the prototypical alternativity as one in the continuum of giving/

holding-on, made specific by the focus on cleanliness training. Blos

(1962) suggests the manner in which increased physical maturity allows

a simultaneous alternativity to develop in the dependence-independence

relationship between baby and mother: sphincter control helps make

clear the body boundaries (i. e. what is inside and what is outside of the

body), and increased locomotion moves the baby away from (and back to)

his mother. It is Mahler (1963, 1965; Mahler and Furer, 1963), how-

ever, who elaborates most fully the alternativity of the dependent-inde-

pendent relationship between baby and mother, further dividing Erikson's

autonomy period into three subphases. During the first, the practicing

period, the baby, delighted with his developing mastery of independent

locomotion, spends his time practicing just that, and for long periods

seems to forget mother, returning only occasionally for "emotional refuel-

ing." During the second, the rapprochement period, he rather suddenly

becomes aware of his genuine aloneness and spends much more of his

time close to mother, attempting to entice her into participation in his

every activity. He wants her attention readily available even if he decides

to toddle out on his own errands. McFarland (personal communication)

suggests that visual contact between mother and baby may be especially important during the rapprochement sub-phase as it is a means of "joining" the child, of sharing his activities, while allowing, at the same time, some physical distance between the two. Finally, during the third subphase, the child becomes increasingly willing to stay without mother in a familiar playroom with other adults known to him, growing in his ability to function happily away from mother's immediate presence. It is perhaps the rapprochement period, however, which Mahler sees as one of particular vulnerability, for the child returns to dependence of a clinging, demanding sort after a period of apparent independence: if the mother fails to understand the meaning of the child's temporary return to dependence, and requires the independence of the practicing phase, the child has a difficult time exploring the meaning of separating from his mother and establishing himself as a whole person when separate from her.

Erikson's second developmental level, that of autonomy, is a time, then, of alternation between giving and holding-on, as the child masters cleanliness training and as he masters separation from the mothering person. If it proceeds well, the child achieves a confident autonomy, able to function independently in areas he has mastered, and comfortably to ask adults for help in areas he cannot yet manage alone. His creative play at this period, Erikson's formulations suggest, will be characterized by explorations of giving and holding-onto, and of alternativity and complementarity in abstraction.

Erikson's third period, occurring during the preschool years, three

to five, is characterized by behaviors showing the developing differentia-

tion of male and female identities, and an understanding of their relation-

ship to each other in the child's culture. Having become aware of physi-

cal differences between the sexes and being faced with the need to under-

stand the meaning of the physical differences (Blos, 1962; Benedek, 1952),

the child becomes interested in other characteristics of masculinity and

femininity: he begins to note all the qualities which differentiate males

from females, and to classify objects of his environment in terms of their

masculine or feminine characteristics. His primary orientation to the

world changes, now, Erikson suggests, from that of giving/holding-on to

those of intrusion and inclusion, the former considered descriptive of

masculine behavior, in its sturdy, thrusting, active qualities, the latter

of feminine behavior, in its protective, nurturing qualities. Although both

sexes develop both qualities, the boy's orientation is primarily intrusive

and the girl's primarily inclusive. [1] The intrusive orientation opens the

child to the intrusive qualities of learning: to move skillfully into and

across space, to "shoot" question after question at adults, to be curious,

all in the service of investigation. The inclusive orientation opens the

child to the qualities of nurturance and supportiveness of growth, both in

oneself and in others.

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[1]Blos (1962) suggests that boys develop less inclusiveness than girls develop intrusiveness because of the considerable punishment Western culture gives boys with feminine characteristics.

The latter part of the period sees the child, having learned something of the differences between male and female, turn to the opposite-sexed parent of his family in his wish to emulate the emotional relationships of adults. The healthy resolution of this wish, following on the realization of his immaturity, occupies the final part of the period.[1] With its healthy resolution, the child is freed to carry forward the special quality of this period, initiative, to the school age years.

Erikson's third developmental level, that of initiative, is a time, then, of differentiation of sexual characteristics, and of exploration of the relationships between males and females in his culture. If it proceeds well, the child achieves an attitude of initiative, energy, "undertakingness" with respect to his life tasks; the initiative of boys has an active, intrusive quality, that of girls a supportive, inclusive quality. His creative play at this period will, Erikson's formulations suggest, be characterized by an exploration of masculine and feminine identities, of the male-female relationship in his culture, and of intrusiveness and inclusiveness in abstraction.

Since the children in this study are black children, from lower-class families, it is important to note the American culture's unique pressures

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[1]McFarland (personal communication) suggests that this period may be one of particular vulnerability for children of low-income families whose housing is necessarily crowded and offers adults little privacy, for the young child's frequent observation of the primal scene, which he cannot understand nor integrate because he has not yet reached the phases of personality development which make mature heterosexuality comprehensible, becomes a situation in which he must avoid using natural perceptual faculties, i. e., vision and hearing, which are so crucial to later learning in school.

on black children with respect to the several early developmental levels.
Grier and Cobb (1968), in describing the black mother's functions as
culture-bearer to her children, mention that she has had to teach them
that life in America can be very dangerous; they suggest that her method
is often, therefore, one of occasional deliberate harshness (or some-
times, sudden alternation between gentleness and harshness), feeling
that the pain she inflicts is necessary to the child's ability to withstand
the harshness of life for a black person in America. Both Erikson's
(1963) and Davis and Havighurst's (1946, 1947) work support the notion
of the alternation of gentleness and harshness, both suggesting that De-
velopmental Level I, with its late weaning (Davis and Havighurst, 1946),
is a time of sensory richness and satisfaction for black babies, while
Developmental Level II, with its early and demanding cleanliness train-
ing (Davis and Havighurst, 1946), is a time of sudden harshness. With
weaning late, and cleanliness training early, the two periods may over-
lap considerably, allowing during middle infancy a period of alternating
gentleness and harshness.

Rainwater (1966), Coles (1967), and Grier and Cobbs (1968) are
further helpful in their discussions of the meaning of blackness for the
black child. Grier and Cobbs explain that adequate functioning as a slave
required the perception of oneself as inferior, a perception of which
"black" became the symbol. Rainwater describes the use of "black" as
a pejorative adjective in the lower-class black community:

> "To those living in the heart of a ghetto, black comes to mean not
> just 'stay back,' but also membership in a community of persons
> who think poorly of each other...The individual feels he must em-
> brace an unattractive self in order to function at all." (Rainwater,
> 1966, p. 205)

McFarland (personal communication) suggests that it is precisely the Level II discrimination between light and dark necessary for cleanliness training,[1] which makes difficult -- for both white and black children -- the perception of black as good (e. g. during cleanliness training, it is darkness each must learn to disavow). For the black infant, who, through a long and rich period of Level I satisfactions has learned to know black as the color of the loving mother, who -- at the same time -- has met abruptly with demanding cleanliness training from the same mother, this visual discrimination may be immeasurably complicated. The young black child's play, in this study, may, therefore, reflect the difficulty of this discrimination, at least for this sample whose infancy occurred before the present widespread and hopeful emphases on black pride and independence.

To summarize, then, with respect to creative play, it is seen as the only assimilative[2] form of the symbolic function, one whose free-flowing and flexible use in affective areas may be disrupted, according to Erikson's (1937, 1940, 1963) formulations of play disruption. It is considered a means of elaboration of affective content with respect to Erikson's formulations of the three preschool developmental levels, in each of which the child's characteristic orientation to the world changes, and which (levels) for the black child growing up in white America may hold unique complications.

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[1]E. g., the primitive perception of darkness as dirtyness, as white is often associated with the color of milk.

[2]In Piaget's sense.

We wish to turn, now, to a further examination of the nature of the structure of the three preschool curricula in the study.

Structure: The Three Curricula

The Open-Ended Curriculum

The structure of the Open-Ended curriculum is that of articulated time and space, and free time and space. The daily schedule is articulated into large blocks of time, within which free time is available for the child's own planning and use. In the school setting, small, self-contained learning centers in various curricular areas articulate the space of the large classroom area; within each learning center, there is free space for the child's planning and use. The adult's function is to circulate from center to center, establishing personal relationships with individual children and small groups of children, and join in their exploration and resolution of chosen topics. The original preparation of learning centers to speak of the learning needs of specific children is seen also as a responsibility of the teacher.

The intent of this form of structure is to provide a stable framework within which young children can, in the company of teachers who are personally significant to the children and knowledgeable about their learning needs, explore topics they choose from among those offered by the teacher. The element of choice on the part of the child is seen as a contribution to the development of the symbolic function: choice from alternatives gives permission to develop the idiosyncratic "signifiers" of

Piaget's symbolic play, and it gives, as well, opportunities for practicing all the other forms of the symbolic function. (Stone and Church, 1969)

The particular classroom of the Open-Ended curriculum used in this study followed the above description closely, with the exception of adult interaction with the children: the teachers were inexperienced in the preparation of the learning centers and their use for stimulating educational interaction with the children. The centers were there, but the teachers did not always fully exploit their educational potential.

The Materials-Programmed Curriculum (Montessori)

The structure of the Montessori is very similar to that of the Open-Ended curriculum (articulated time and space plus free time and space), with, however, one major exception: the learning centers use a specific kind of equipment designed to be both environment-clarifying and "self-correcting." To do so, each piece of equipment must be used in a prescribed manner, and so used, includes within this procedure itself whatever correction is necessary to clarify the concept under exploration.[1]

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[1]For example, if the child is exploring gradations of weight or size, he works with a long block with holes of graded sizes (from large to small) into which fit cylinders of graded weight (from heavy to light). Unless the cylinders are graded by the child with respect to weight or size, they will not all fit into the bar. It is at that point at which the child discovers he has extra cylinders, that the equipment becomes "self-correcting" and forces the child to re-orient his solution to the dimension the equipment is designed to illustrate (here, graduations of weight or size).

Thus, the child has free choice of problems to explore, but once a piece

of (Montessori) equipment is chosen, the solution is unitary and pre-

determined: the child does not work through to his own solution unless

he misuses the equipment, the opportunity for which varies with the vigi-

lance -- and attitudes -- of the individual teacher.

The intent of this kind of structure is to provide unequivocal environ-

mental response to the child -- and to do so in a way which systematically

clarifies the environment. (Rambusch, 1962)

Many American Montessori classrooms include traditional nursery

school equipment as well as Montessori equipment, thus presenting the

child with a combination of the Open-Ended and the Montessori curricula

as here described. The Montessori classroom in this study included,

besides Montessori equipment, only paints and books from the traditional

nursery school. There were two teachers to instruct the children in the

use of the Montessori equipment, whereas the usual Montessori classroom

has one teacher for a like group of twenty to twenty-five children. Thus,

the opportunity for misuse of the Montessori equipment (although occa-

sionally observed by the experimenter) was presumably no greater, at

least, than is characteristic of the usual Montessori classroom.

The Teacher-Programmed Curriculum (Bereiter-Engelmann)

The structure of the Bereiter-Engelmann curriculum is quite differ-

ent from that of the other two curricula, with respect to both time and

space. Time is rigidly divided into short study periods (20 minutes) for

language, arithmetic, and reading, plus one period of semi-structured

activities related to the work of any of the first three periods, and also

whatever short time periods are needed for self-care routines such as

lunch and toileting. A short ten-minute period of unstructured activities

with materials limited in quantity (to reduce the overstimulation which

toys in large numbers provide) and in type (principally to discourage fan-

tasy, although a miniature house, barn and farm animals are permitted),

starts the day. If the program is a full-day one, the day ends with a

longer such period (fifty minutes) and includes a repetition of the other

four academic periods. Space is very clearly structured, also: the study

groups of four to six children meet either in separate rooms or in sepa-

rate sections of a large room with seats prearranged. Choice of subject

matter is not in any sense left up to the child: he is given didactic instruc-

tion in language, arithmetic, and reading under the direction of the teacher,

who follows a clearly specified sequence for each subject (and for each les-

son) and who uses verbal methods primarily, with some (again, clearly

specified) use of concrete materials. The child is expected to participate

actively, first in choral response, then in individual verbal response to

the teacher's questions; in the latter case, he has much time to fill with

listening to classmates' responses, a matter of additional drill or boredom,

as the case may be.

The intent of this kind of structure is to teach standard English in a

clear, didactic, fast, and logically-sequenced manner. This curriculum

is concerned with the deficits of the "disadvantaged" child, and because

academic achievement, as now measured, is dependent on language func-

tion, his major deficit is seen as the lack of an elaborated language-

structure, at least in the form of standard English. It is felt that unless

the deficit is removed before the child enters Grade 1, he will be irre-

medially retarded educationally; for this reason, the intent is to provide

a situation in which the child not only learns standard English, but does

so at a faster-than-normal rate (Bereiter and Engelmann, 1966).

The Bereiter-Engelmann classroom in this study had only two teach-

ers instead of the usual three. One of these handled the language, arith-

metic, and reading periods, while the other (simultaneously) handled semi-

structured activities with the other children of the group. The semi-

structured activities were planned to be closely related to the subject

matter of the language, arithmetic, and reading periods. This is one of

the suggested variations of the curriculum (Bereiter and Engelmann, 1966).

Summary

Thus, groups varied in structure along three continua: type of medi-

ation (action-verbal); child's autonomy of problem determination and solu-

tion (both-open through both-closed); child's autonomy of time structure

(child-structured through non-child-structured). These variations resulted

in differential degrees of environmental structure provided by the three

curricula. Our interest, then, is in the effects of such difference in cur-

ricular structure on the child's ability to give meaning to environmental

stimulation, as evidenced in his creative play. The main thrust of the research is in detailed analysis of the play protocols, although statistical analysis of creative activity in the three groups over time has also been done.

II. STATEMENT OF THE PROBLEM

This study was an investigation of the effects of three kinds of preschool curricula which vary in degree of structure, on the creative play of the young "disadvantaged" child. The three curricula were the Open-Ended, the Materials-Programmed, and the Teacher-Programmed.

Definition of Key Concepts

"Disadvantaged" child

In this study, the "disadvantaged" child is defined by the following characteristics of the home environment:

Talk between the child and the caretaking adult is not typified by specific focus on the particular child and/or environmental details and/or differentiation of environmental details.

Example: Adult calls to the child, "Put that up," instead of calling the child's name (differentiating this child from other persons in the environment), and saying something like, "Put that red shirt in the top drawer," (thus differentiating the class, clothing; specifying which piece of clothing; and specifying its proposed location in space.)

The management of environmental complexity if not emphasized by the caretaking adult.

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Example: Toddler playing pleasurably with a pyramid of variously-colored rings takes the toy to the adult to share his pleasure. Adult nods pleasantly, then looks away, rather than drawing child's attention, in addition, to an interesting attribute of the toy, such as color difference or size difference.

Classroom teachers and social workers responsible for home visits were asked to designate children whose typical interaction with adults in their families, as far as said teachers and social workers have been able to observe through their professional contacts with the family, have the quality of the above characteristics.

Preschool curricula

In this study, there are three curricula, which are defined by the following characteristics of the primary work period.

Teacher-Programmed (Bereiter-Engelmann)

In daily work, both problems and solutions are determined for the child.
Problem solutions are verbally-mediated, primarily.
Time is structured for the child.

Materials-Programmed (Montessori)

In daily work, problems are determined by the child, solutions by the materials (whose nature allows only one solution).
Problem solutions are action-mediated, primarily.
Time is structured by the child, within broad limits.

Open-Ended

In daily work, problems and solutions are determined by the child.
Problem solutions are action-mediated, primarily.
Time is structured by the child, within broad limits.

Creative play

In this study, creative play is that in which the child, so far as is evident to the observer from the child's facial expression, posture, speech, and action, imposes his own personal meaning on the play materials. Although such meaning may be suggested by the nature of the material, itself, the creative act goes beyond the simple meaning inherent in the material. The child does this by association of the material with other objects or speech, which association defines its meaning, or by constructing dramas about or using the materials. Creative play is thus seen as synonomous with Piaget's symbolic play, "a system of signifiers constructed by (the child) and capable of being bent to his wishes" (Piaget and Inhelder, 1969, p. 58).

Play disruption

In this study, play disruption refers specifically to Erikson's formulation of play disruption, "the sudden and complete or diffused and slowly spreading inability to play" caused by affect "so intense that it defeats playfulness" (Erikson, 1963, p. 223). The child detaches himself from the play materials, sometimes leaving the area of play, sometimes sitting passively and silently where he is.

Statement of Hypothesis

It is hypothesized that subjects of the three preschool curriculum groups will differ in creative play, with children of the Teacher-Programmed curriculum and the Materials-Programmed curriculum engaging in less

creative activity than those of the Open-Ended curriculum. It should be noted, in addition, that hypotheses generated by the study are of as much interest as testing of the above hypothesis, and are included as an integral part of the discussion of results.

III. METHOD

Design of the Study

The design was a posttest-only, control-group one, with two ex-
perimental groups and one control group. The treatment variable was
preschool curriculum, of which there were three, the Teacher-
Programmed (experimental group), the Materials-Programmed (experi-
mental group), and the Open-Ended (control group). Within the urban
Head Start program of which they were a part, the original assignment
of curriculum to classroom was a random one.

Subjects

Subjects were chosen according to the above criteria for "disadvan-
tage" from children enrolled in the above-mentioned classes of an urban
Head Start program. Determination of a specific child's fulfillment of the
above criteria for "disadvantage" was based on judgments of the child's
teacher and the social worker responsible for home visits. Certain con-
comitant variables which might affect creative play were handled in the
following way:

> Intelligence: Children were chosen from those who scored
> between 62 and 92 on the Goodenough-Harris

26

Draw-a-Person Test of Intelligence.[1]

Age: Children were all four years old
(4-0 through 4-11).

Sex: Two girls and two boys were chosen
from each class.

The total number of subjects for each group was four. Each subject was

observed in four play interviews over a period of four weeks.

Procedure

Play interviews were held in a room set aside for the purpose, a

few steps from the classroom. Children were seen during their regular

classtime, with the permission of their teachers. They were invited to

come to the playroom to play with "some special toys." Specific instruc-

tions on arrival involved simply an indication of the availability of the toys

and a reassurance that they were for the child's use:

Here they are (gesturing to toys set out on the floor).
They're for you to play with...however you'd like.

---

[1]Datta (1967) concludes from her review of the literature about the Draw-a-Person Test of Intelligence that it is more satisfactory, when used for Head Start children, as a culture-fair test than the other two short preschool intelligence tests, the Peabody Picture Vocabulary Test and the Caldwell Preschool Inventory, but it is not satisfactory in this respect when used in an economically heterogeneous group. Draw-a-Person mean standard scores for her geographically representative sample of 956 Head Start children were "substantially lower than the mean for the normative sample." (The overall mean standard score in her study of Head Start children was 77.29). Since only Head Start children will be considered in this study, the Draw-a-Person Test would seem to be the test of choice.

Continuous running notes plus tape recording of speech were made by the experimenter and transcribed immediately following each interview. The experimenter's observer reliability had been previously established.[1]

The second half of each play interview was analyzed. The original intent had been to use a method of analysis based on delineation of four different types of play: creative, repetitive, exploratory, destructive. Visual examination of the records indicated, however, that all except creative play occurred so infrequently as to remove the possibility of this analysis: destructive play was non-existent and repetitive play nearly so; exploratory play was rare in the part of the protocols chosen for analysis (i.e., the last fifteen minutes).

Therefore, a different kind of analysis was developed, based upon the creative response, and the developmental level of the response, in accord with Erikson's formulations (1963) about development levels during the preschool years.

Thus, in the protocols, play acts were first differentiated from non-play acts: the former were defined as those in which the child is clearly involved with the play materials, the latter as those in which the child leaves the play materials for other materials in the room to which he responds in a realistic manner.

_____

[1]The experimenter recorded, simultaneously with another experienced observer, a fifteen-minute sample of behavior of an individual child at play. Each observer transcribed her record independently. The records were then categorized by each observer according to classifications determined prior to making the above sample observations, and the total percentage of agreement between the two observers computed. Obtained reliability was .83.

Example:

Play Act -- She has placed the father figure in the driver's seat (of the car). (Theresa, I, p. 108)

Non-Play Act -- She notices my coat hanging up nearby, asking whose it is... (Theresa, I, p. 110)

Each play act must also be differentiated from other play acts. This was done by including within each play act only that detail which was needed to define it. Thus, some acts are quite simple and direct, while others must include more description before their meaning becomes clear.

Example:

Direct -- She has placed the father figure in the driver's seat(of the car). (Theresa, I, p. 108).

Elaborated -- He takes both beds from the car, leaving only the people there: postman in the trunk section, policeman in the back seat. "Call someone to come and get you," he says. (Cary, I, p. 105)

Further examples of the differentiation of play acts, one from another, and from non-play acts are included in Appendix III.

Once play acts were differentiated from each other and from non-play acts, they were categorized according to developmental level, as suggested by Erikson's formulations (1963). Accordingly, Level I includes behaviors expressive of the trust and dependence on adults characteristic of infancy, Level II behaviors expressive of the developing autonomy and independence of adults characteristic of the baby who has achieved locomotion, Level III behaviors of the child's developing differentiation of male and female qualities and roles, characteristic of the preschool child.

Example:

Level I -- ...noticing as she does so, the cradle; she asks herself where the baby is. (Child indicates an interest in the dependent care necessary for infants.) (Theresa, I, p. 78)

Level II -- He brushes his hair with the tiny hairbrush and looks at himself in the mirror. (Child shows himself independent of adults in an area of self-care.) (Cary, I, p. 72)

Level III -- He rearranges the parents so the father figure is in the driver's seat and the mother next to him. (Child specifies a relationship between male and female figures.) (Brady, I, p. 81)

Additional specific behaviors and their assignment to the three levels is indicated in detail in Appendix III.

Finally, play acts were also differentiated into creative acts and non-creative acts; the former were defined as those in which the child imposes his own personal meaning on the play materials. Although such a meaning might be suggested by the nature of the material itself, the creative act goes beyond the simple meaning inherent in the material. For instance, the peanuts available with the playhouse materials suggest eating. If the child uses them merely for eating, the act is considered non-creative; if he uses them to compose a drama about eating (i. e. he lays out plates on the table and apportions nuts to each), the act is classified as creative. Likewise, the dough is a sticky, plastic material, suggesting the cleaning-messing continuum. If the child merely squeezes it or mixes water with it, the play act is classified as non-creative; if he models with it (and with children this young, the model may be something

so simple as a snake or a pile of pancakes), the play act was seen as creative. Again, a further selection of examples of this differentiation appears in the Sample Scoring section of Appendix III.

Reliability of the categories was determined by independent analysis of four play protocols by the experimenter and another observer of established reliability. Product-moment co-efficients of reliability for categorization scores of the two observers were .94 for the developmental level categories, and .89 for the creativity-noncreativity categories.
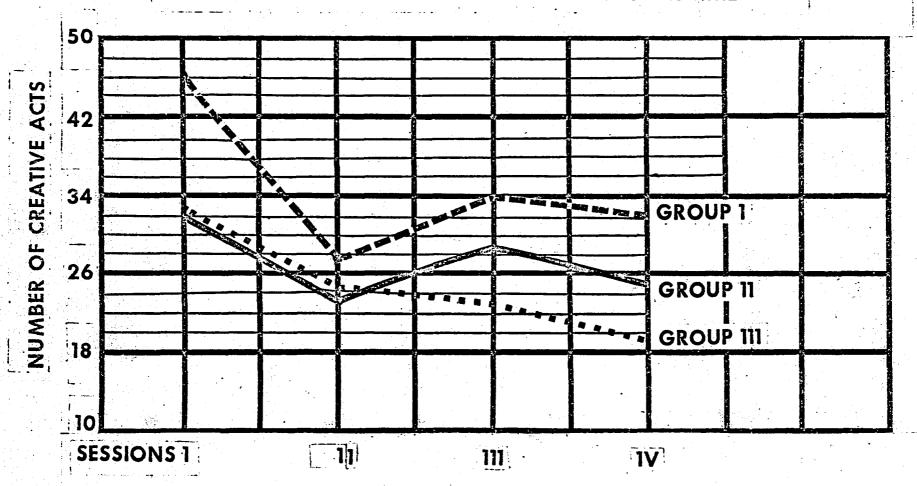
Once protocols were analyzed with respect to the foregoing categories, diagrams of the children's play activity during each session could be made. Thus, the sequence of the child's play from developmental level to level and creative to noncreative play can be made clearly evident. From these play sequence diagrams, total numbers of play acts and of creative acts could be determined, and finally, percentage scores of creative acts to play acts computed. These three sets of scores were used for hypothesis-testing as described in the following section, while the play sequence diagrams themselves were found especially productive in hypothesis-generation.
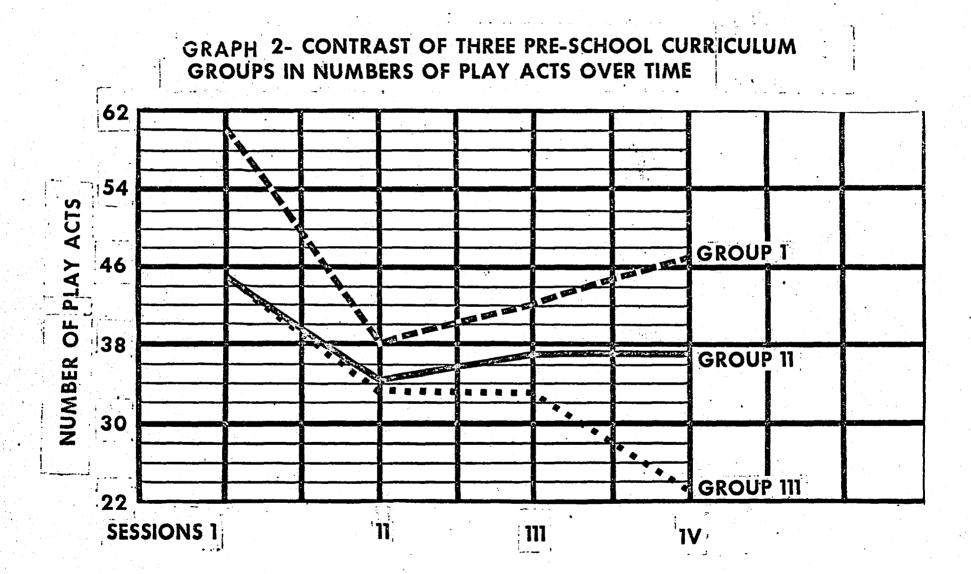
IV. RESULTS

Graphs of the group data indicating changes over time in numbers

of play acts, of creative acts, and of proportion of the latter to the for-

mer appear on the pages following. The data for each were tested statis-

tically: the technique of choice was the analysis of variance, using a

mixed design incorporating the randomized and repeated measurements

designs, as recommended by Myers (1966, p. 174) for comparison of

group performance over time. The assumptions for this technique, e.g.

independent and normal distribution of scores, and homogeneity of vari-

ance, were met as follows:
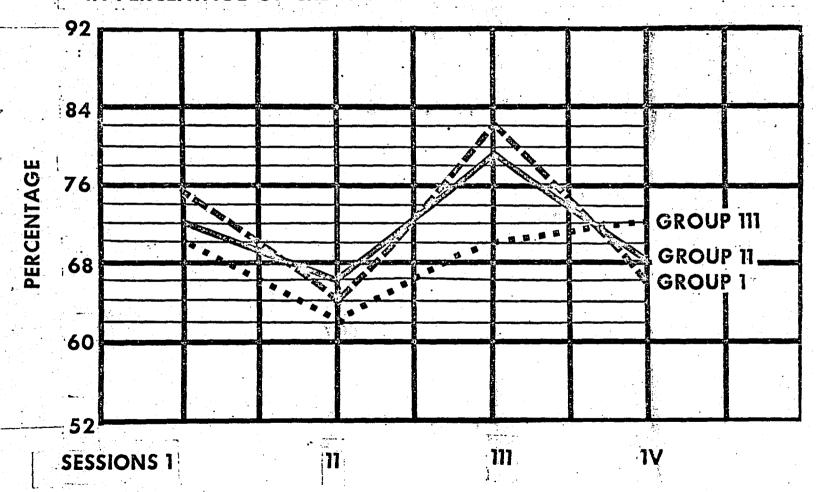
> Independent distribution of scores -- In order to achieve
>
> performances which were independent, children were seen
>
> separately, and instructions were standardized. Because
>
> there were no "correct" responses and because of the
>
> young age of the children, it is most unlikely that per-
>
> formances were discussed among the subjects. Children
>
> from more than one preschool group were seen each day,
>
> so that one group's performance would not be confounded
>
> with time; groups were randomly assigned to days. Assign-
>
> ment of subjects to levels of the treatment variable (i. e.
>
> preschool curriculum group) had been a random one in the

GRAPH 1-CONTRAST OF THREE PRE-SCHOOL CURRICULUM GROUPS IN NUMBERS OF CREATIVE ACTS OVER TIME

Y-axis: NUMBER OF CREATIVE ACTS (10, 18, 26, 34, 42, 50)

X-axis: SESSIONS I, II, III, IV

GROUP 1
GROUP 11
GROUP 111

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GRAPH 2- CONTRAST OF THREE PRE-SCHOOL CURRICULUM GROUPS IN NUMBERS OF PLAY ACTS OVER TIME

SESSIONS I   II   III   IV

NUMBER OF PLAY ACTS

62
54
46
38
30
22

GROUP I
GROUP II
GROUP III

GRAPH 3-CONTRAST OF THREE PRE-SCHOOL CURRICULUM GROUPS IN PERCENTAGE OF CREATIVE RESPONSE OVER TIME.

A line graph with the vertical axis labeled PERCENTAGE ranging from 52 to 92 (marked at 52, 60, 68, 76, 84, 92) and the horizontal axis labeled SESSIONS with points I, II, III, IV. Three lines are plotted and labeled GROUP III, GROUP II, and GROUP I.

sense that the different preschool curricula were originally assigned at random within the total Head Start program.

Actual scores were, of course, determined by analysis of the play protocols which recorded the above performances. Ideally, this would have been done by more than one person, each unaware of the curriculum group of each subject. Since this was not possible because of the great bulk of analysis to be done, it was recommended that the analysis for this study be done by the experimenter alone, having first established the reliability of the categories. The latter was done through independent analysis of four sample protocols by the experimenter and by another observer of established reliability. Obtained reliability co-efficients were .94 for the developmental level categories and .89 for the creativity-noncreativity categories.

Normal distribution of scores -- Although percentage scores are known to be binomially distributed, this criterion, normal distribution of scores, is not considered a crucial one because of the robustness of the analysis of variance. Myers (1966, p. 62), for instance, on the basis of Norton's very thorough study of the percentage of F ratios from nonnormal distributions which exceed various probability levels, concludes that "the distribution of the (F ratio) seems little affected by departures from normality."

Homogeneity of variance -- The Cochran test (Myers,

1966, p. 63) for homogeneity of variance was performed

with respect to group variances over time and with respect

to all varieties within groups for the three sets of data

(play acts, creative acts, proportion of creative acts to

play acts). Results for the former (group variances over

time) produce a C statistic for each of the three data sets

which was not large enough to allow rejection of the homog-

eneity of variance assumption at the .05 significance level.

With respect to the latter (variances within groups), all C

statistics were non-significant except that for Group III

(Teacher-Programmed Curriculum) in the data set for

creative acts: this statistic was large enough to allow rejec-

tion of the homogeneity of variance assumption at the .05

significance level but not at the .01 level. Since whatever

heterogeneity of variance exists is thus not extreme, and

since the analysis of variance is a highly robust technique

in any case, not easily influenced by violations of this

assumption (Winter, 1962, p. 219), no transformation

of scores -- as if sometimes suggested for extreme

heterogeneity of variance -- was made. The analyses

of variance were performed directly on the data as it stood.

The analysis of variance table for creative acts appears in Table I,

that for proportion of creative acts to play acts in Table II, that for play

TABLE 1

ANALYSIS OF VARIANCE FOR CREATIVE ACTS

Source of Variance	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio
Total	47	7318.812		
Between Treatment Groups	11	2292.562		
Preschool Curriculum Groups	2	903.805	451.938	2.929
Subjects within Preschool Curriculum Groups	9	1388.685	154.299	
Within Treatment Groups	36	5026.250		
Time of Play Session	3	1128.395	376.132	2.801
Interaction of Time of Play Session with Preschool Curriculum Group	6	272.042	45.341	0.338
Interaction of Time with Subject, within Preschool Curriculum Group	27	3685.813	134.290	

TABLE 2
ANALYSIS OF VARIANCE FOR PROPORTION
OF CREATIVE ACTS TO PLAY ACTS

Source of Variance	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio
Total	47	.864222		
Between Treatment Groups	11	.322407		
Preschool Curriculum Groups	2	.04444	.022227	0.720
Subjects within Preschool Curriculum Groups	9	.277953	.030884	
Within Treatment Groups	36	.541865		
Time of Play Session	3	.138727	.046242	3.192*
Interaction of Time of Play Session with Preschool Curriculum Group	6	.003509	.000585	0.040
Interaction of Time with Subject, within Preschool Curriculum Group	27	.399629	.014801	

*Significant at the .05 level

acts in Table III. Tables I and II indicate no significant difference among the three preschool curricula in numbers of creative acts and in percentage scores relating creative acts to play acts, while Table III indicates a difference among the three preschool curriculum groups at the .05 level of significance in numbers of play acts. The latter data were further analyzed by means of Dunnett's test for comparison of experimental groups with a control group (Myers, 1966, p. 337). The results of computation of the "d" statistic indicate a difference significant at the .01 level between Groups I and III (Open-Ended Curriculum and Teacher-Programmed Curriculum, respectively).[1]

Thus, the hypothesis that the three preschool curriculum groups would differ in creative activity was not supported by the statistical analysis of the data with respect to numbers of creative acts and to proportion of creative acts to play acts. Two of the groups did differ significantly, however, in numbers of play acts; the nature of this difference and its relationship to creative play will be discussed in the next section.

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[1] $d = 3.144$

TABLE 3

ANALYSIS OF VARIANCE FOR PLAY ACTS

Source of Variance	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio
Total	47	9933.667		
Between Treatment Groups	11	2985.667		
Preschool Curriculum Groups	2	1580.167	790.084	5.061*
Subjects within Preschool Curriculum Groups	9	1405.499	156.164	
Within Treatment Groups	36	6948.000		
Time of Play Session	3	1284.000	428.000	2.186
Interaction of Time of Play Session With Preschool Curriculum Group	6	378.499	63.133	0.325
Interaction of Time with Subject, within Preschool Curriculum Group	27	5285.501	195.759	

* Significant at the .05 level

V. DISCUSSION

The concerns of this study are two: what do the data tell us about

young children's creative play, both through hypothesis-testing and

through clinical consideration of the material; and what may be the rela-

tionship of this to early childhood education. First, then, the hypothesis-

testing.

Young Children's Creative Play...the
Results of Hypothesis-Testing

The results of hypothesis-testing, with respect to the three groups'

difference in creative play, indicates that this difference, if either num-

bers of creative acts or proportion of creative acts to play acts is used

as its measure, is not statistically significant. It is interesting to note,

however, that the difference between Groups I and III (the Open-Ended

curriculum and the Teacher-Programmed curriculum, respectively) in

play activity itself (as measured by numbers of play acts) is statistically

significant. A qualitative study of the Play Sequence Graphs and the

original play protocols[1] as well, suggest that the children from the more

---

[1] That is, the first fifteen minutes of each play interview as well as
the last fifteen minutes. (Only the latter were used to obtain data for
hypothesis-testing.)

structured preschool settings (Groups II and III) are more frequently

subject to play disruption than those from the Open-Ended setting

(Group I). There is, in fact, just one play disruption of any length

among the children of Group I (Tara, IV); the only other disruptions in

all of the Group I material are Cary's momentary ones in Session I, in

which he stops to note the tape recorder. In Group II, disruptions of

some length occurred at one time or another with two of the four chil-

dren (Cathy and Kevin), while in Group III such disruptions occurred

with all four of the children. (Table IV summarizes the occurrence and

length of disruption.)

A qualitative study of the Play Sequence Graphs would suggest that

the maneuver which replaced disruption among the children not subject

to it, was regression to a lower developmental level, and/or retreat

from creative to noncreative play acts. By these means, the child was

able to remain in contact with the play materials and to continue to play.

The lack of statistically significant difference among the three

groups with respect to proportion of creative acts to play acts suggests

that the children of each group played as intensely, as creatively --

when they played -- as those of any other group. Thus, the crucial dif-

ference among groups seems to lie in the fact that, given this level of

intensity, the children of the Open-Ended curriculum (Group I) are able

to maintain play activity through judicious use of regression techniques,

while those of the more structured curricula (Groups II and III) do not

have such a flexible use of play at their disposal; instead, they disrupt

TABLE 4
LENGTH AND FREQUENCY OF PLAY DISRUPTION

	Session			
	I	II	III	IV
Group I	Momentary (Cary)			3' (Tara)
Group II	3' (Cathy)	4' (Cathy)		
		5' (Kevin)		4' (Kevin)
Group III	4' (Lisa)			5' (Lisa)
		5' (Ruthie)		3' (Ruthie)
				5' (Benny)
				5' plus (Brady)[a]

[a] Occurred in the unanalyzed portion of the session and was severe enough that Brady left the playroom for his classroom, returning to the playroom only later in the morning.

and fail to maintain contact with the play material. This is particularly evident with the children of the Teacher-Programmed curriculum (Group III), whose difference from Group I is statistically significant with respect to play activity. The Materials-Programmed curriculum (Group II), which is, in fact, a combination of highly structured and open-ended settings takes an intermediate place between Groups I and III: although its difference from Groups I and III is not statistically significant, a qualitative study of its Play Sequence Graphs shows some evidence of that factor (play disruption) which seems to differentiate Groups I and III. [1]

Young Children's Creative Play...a Qualitative Consideration of the Play Materials

A careful qualitative study of original play protocols and Play Sequence Graphs raises certain additional questions. At what level, for instance, do periods of sustained creative work appear: mostly at Level III, the level emergent for four-year-olds, or more at Level II, the comfortable level for four-year-olds? In what way are such periods of sustained work related to each other: is work at Level II and/or Level I necessary to maintain work at Level III? If thus used for regres-

---

[1] Account should also be taken of the "peak-and-valley" shape of the lines in Graphs I, II, and III. Although disruptions frequently coincide with valleys, disruption clearly does not account for all of the drop shown, since the drops also occur with Group I. It is hypothesized that the actual cause of the drop is fantasy shock, akin to the color and shading shock of the Rorschach, which is expressed in Group I through regression techniques, in Group III through disruption, and in Group II through a combination of regression techniques and disruption.

sion, are they successful...or does the child remain at the lower levels without being able to regain Level III?

With respect to <u>flexibility of creative play</u>, are children able to use all three levels with sustained periods at each? Or do they use all levels but in a rapidly alternating way? Or are they limited to certain levels?
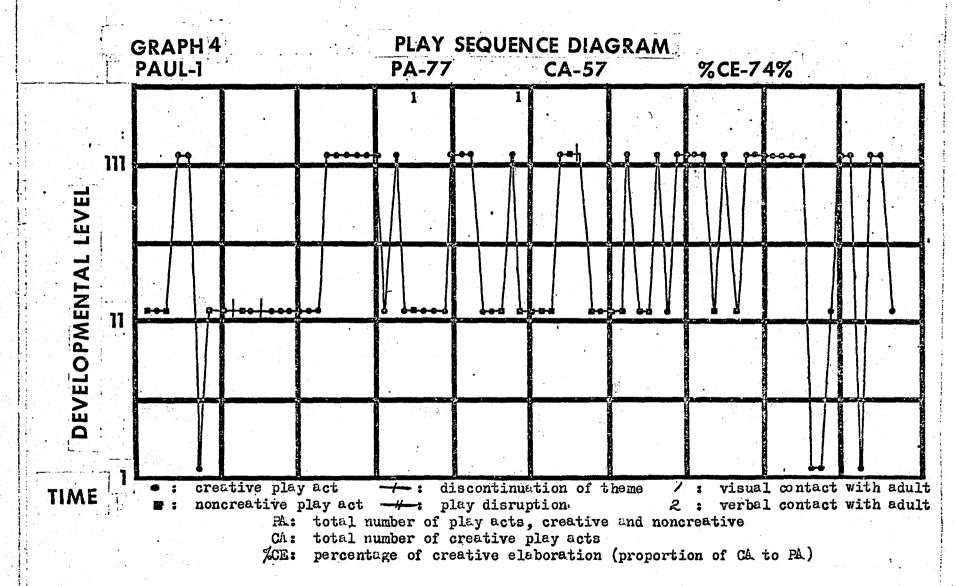
With respect to <u>developmental level</u>, what is the use of Level II in this group of children? Does their creative work show mastery of Level II or unfinished work at this level? Is Level I gratifying, or is it inadequate for use in regression?
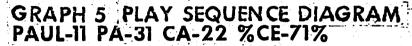
Finally, what is the children's <u>use of the adult</u> during the one-to-one setting of the play interview? Do they initiate contacts? If so, are the contacts primarily verbal or visual?
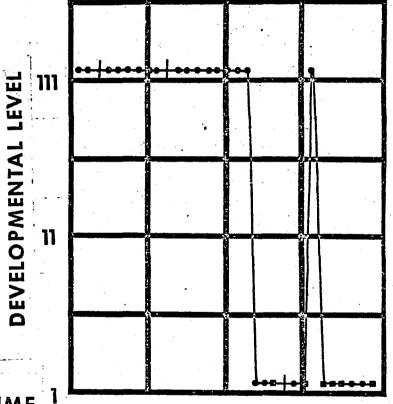
Thus, we are concerned with five dimensions of the children's creative play: sustained creative periods; characteristic developmental level of creative play; nature of creative play at each developmental level; flexibility of creative play; use of the adult in the one-to-one setting of the play interview. Let us consider, first, the records of one child.

<center>One Child: Paul</center>

In Paul's first Play Sequence Graph (following), sustained creative periods appear with considerable frequency at Level III; they are supported by retreat to sustained work at Level II and occasional dips to Level I. The second session, a time of lowered performance for most

GRAPH 4   PLAY SEQUENCE DIAGRAM

PAUL-1   PA-77   CA-57   %CE-74%

DEVELOPMENTAL LEVEL

111

11

1

TIME

● : creative play act   ─┼─ : discontinuation of theme   / : visual contact with adult

■ : noncreative play act   ─╫─ : play disruption   2 : verbal contact with adult

PA: total number of play acts, creative and noncreative

CA: total number of creative play acts

%CE: percentage of creative elaboration (proportion of CA to PA)

47

GRAPH 5 PLAY SEQUENCE DIAGRAM
PAUL-11 PA-31 CA-22 %CE-71%

DEVELOPMENTAL LEVEL

TIME

o : creative play act   —+—: discontinuation of theme   / : visual contact with adult
▯ : noncreative play act   —#—: play disruption   2 : verbal contact with adult
              PA: total number of play acts, creative and noncreative
              CA: total number of creative play acts
              %CE: percentage of creative elaboration (proportion of CA to PA)

48

GRAPH 6   PLAY SEQUENCE DIAGRAM
PAUL-111   PA-55   CA-48   %CE-87%

DEVELOPMENTAL LEVEL

TIME

● : creative play act   ─┼─ : discontinuation of theme   **/** : visual contact with adult
◼ : noncreative play act   ─#─ : play disruption   **2** : verbal contact with adult
     PA: total number of play acts, creative and noncreative
     CA: total number of creative play acts
     %CE: percentage of creative elaboration (proportion of CA to PA)

GRAPH 7   PLAY SEQUENCE DIAGRAM
PAUL-IV   PA-44   CA-36   %CE-82%

DEVELOPMENTAL LEVEL

III

II

TIME

● : creative play act   ─┼─: discontinuation of theme   ∕ : visual contact with adult
■ : noncreative play act   ─∕─: play disruption   2 : verbal contact with adult
        PA: total number of play acts, creative and noncreative
        CA: total number of creative play acts
        %CE: percentage of creative elaboration (proportion of CA to PA)

50

of the children, produces a Graph with sustained creative periods again
at Level III, but with use of Level I, only, for regression. In addition,
Paul maintains the intensity of creative play (proportion of creative acts
to play acts) from session I to II, a rather rare occurrence within the
total group of children. At the third session, he returns to sustained
creative work at Level III, supported firmly by Level I. Finally, at the
fourth session, he returns again to sustained creative work at Level III,
this time supported primarily by Level II. Thus, with respect to sus-
tained creative periods, Paul is able to produce these consistently at
Level III, and to use both Levels II and I (usually separately, not com-
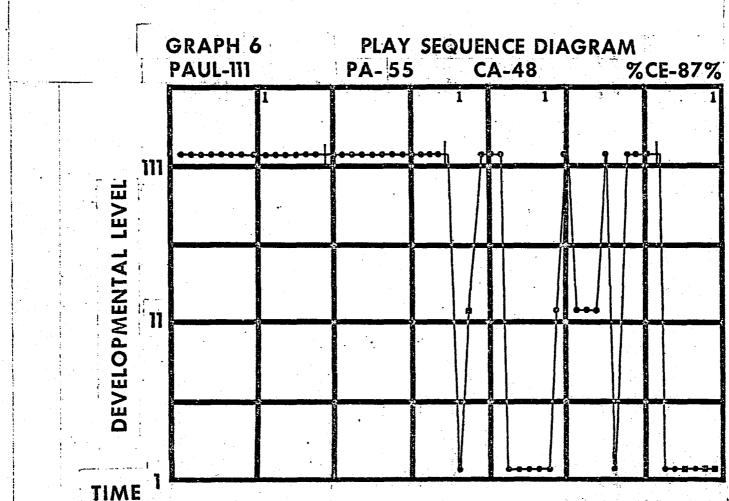bined) for regression. His work as a whole tends to be characterized by
sustained periods rather than by rapid alternation from level to level.
With respect to the nature of creative play at each developmental level,
and the characteristic developmental level of his play, Paul works pri-
marily at age-appropriate Level III and uses primarily Level II for
regression, with Level I fully available when needed. Finally, with
respect to use of the adult in the one-to-one situation, Paul is absorbed
in his play and refers rather infrequently to the adult. What references
he makes are visual rather than verbal. Of all the children, Paul's
record most closely approximates that which might be expected from an
"advantaged" four-year-old: sustained rather than alternating creative
work; creative work primarily at age-appropriate Level III with Level II
the primary supportive one; flexibility in use of developmental levels to
maintain creativity and also to stave off disruption. The final character-

istic, use of the adult in the one-to-one situation, differs from its

appearance in the "advantaged" child in two respects: the "advantaged"

child uses language more frequently than visual means to contact the

adult, and he tends to initiate contact a bit more frequently than did

Paul for clarification of the environment (although there is great

variation in the latter: many advantaged children do not initiate con-

tact any more frequently than Paul did).
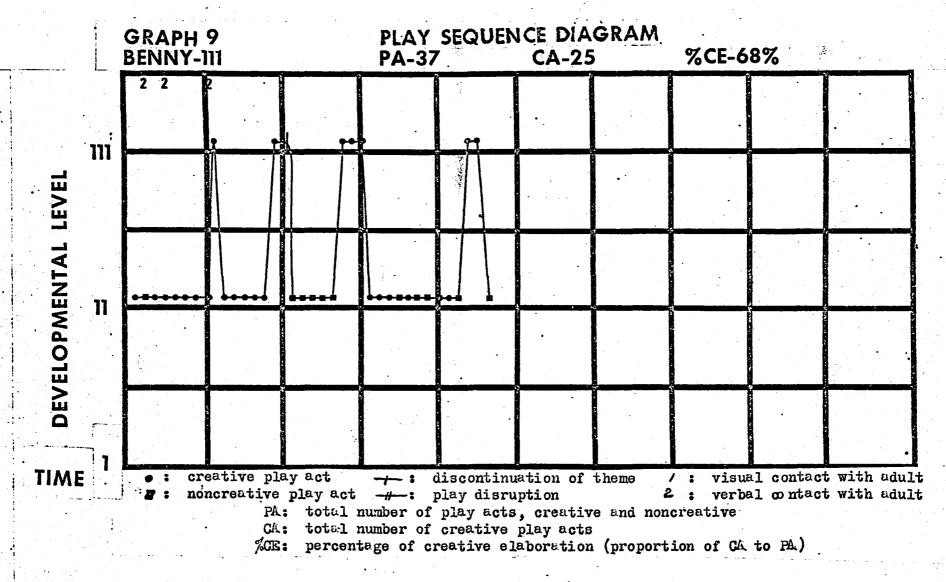
Other Children
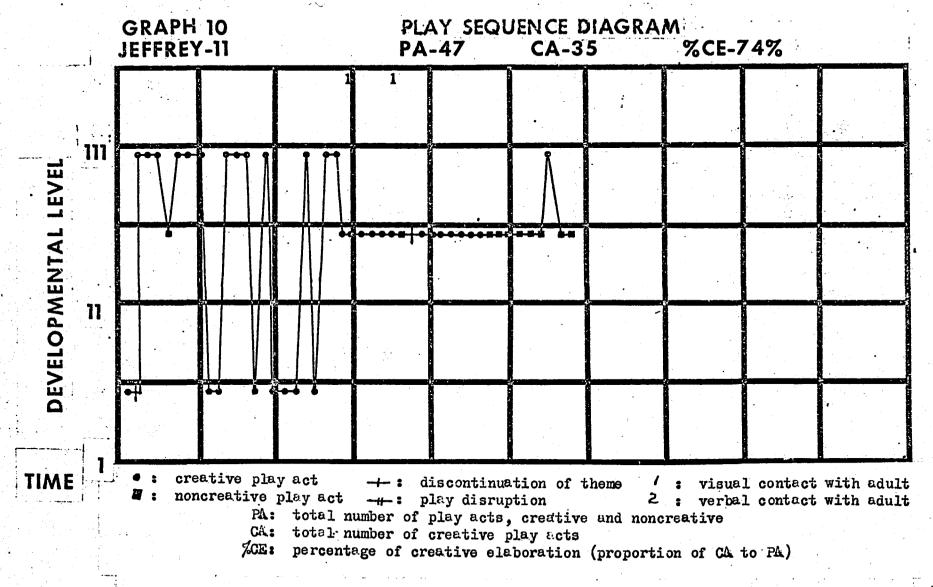
Other children in the total group illustrate various differences

in the above five dimensions. With respect to sustained creative

periods, for instance, Karen (IV) shows sustained creative work at

Level II, combined with peaks (only) into Level III. With respect to

characteristic developmental level, Benny (III) illustrates a preoccupa-

tion with Level II. With respect to flexibility of creative play, the

two most frequent patterns, e.g. some use of all levels, and play

disruption, occur, respectively, with Jeffrey (II) and Ruthie (IV).

Finally, with respect to contact with the adult, Karen (IV) illustrates

a situation of much increased contact with the adult, showing a mix-

ture of both verbal and visual contact.
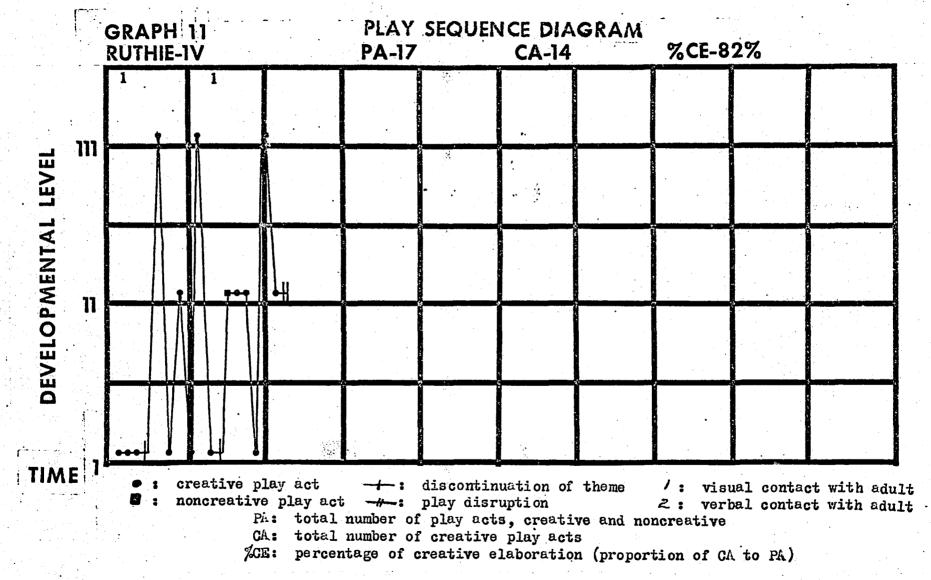
The Total Group

In considering the total group, certain aspects of the five dimen-

sions become clear. For many of the children, the characteristic de-

velopmental level is Level II rather than age-appropriate Level III.

GRAPH 8
KAREN-IV

PLAY SEQUENCE DIAGRAM

PA-60   CA-50   %CE-83%

DEVELOPMENTAL LEVEL

TIME

● : creative play act   —┼— : discontinuation of theme   / : visual contact with adult
■ : noncreative play act —#— : play disruption   2 : verbal contact with adult

PA: total number of play acts, creative and noncreative
CA: total number of creative play acts
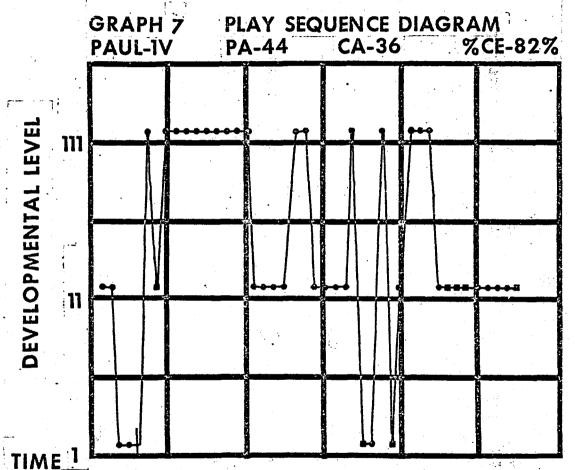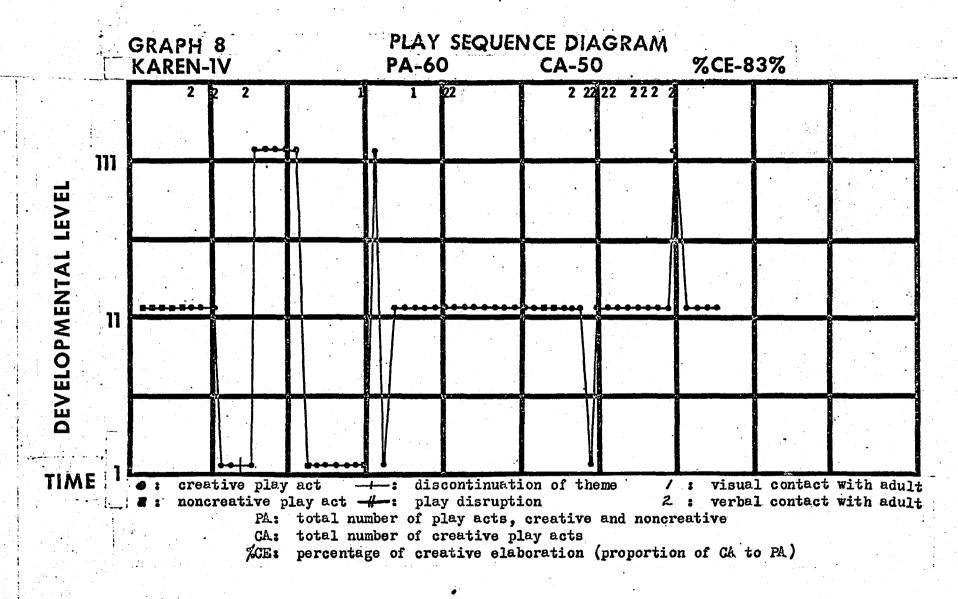%CE: percentage of creative elaboration (proportion of CA to PA)

53

GRAPH 9
BENNY-111

PLAY SEQUENCE DIAGRAM
PA-37   CA-25   %CE-68%

DEVELOPMENTAL LEVEL

111

11

1

TIME

● : creative play act   ─┼─ : discontinuation of theme   / : visual contact with adult
▪ : noncreative play act   ─#─ : play disruption   2 : verbal contact with adult
PA: total number of play acts, creative and noncreative
CA: total number of creative play acts
%CE: percentage of creative elaboration (proportion of CA to PA)

54

GRAPH 10   PLAY SEQUENCE DIAGRAM
JEFFREY-11   PA-47   CA-35   %CE-74%

● : creative play act   —+— : discontinuation of theme   / : visual contact with adult
■ : noncreative play act   —#— : play disruption   2 : verbal contact with adult
        PA: total number of play acts, creative and noncreative
        CA: total number of creative play acts
        %CE: percentage of creative elaboration (proportion of CA to PA)

GRAPH 11
RUTHIE-IV

PLAY SEQUENCE DIAGRAM
PA-17   CA-14   %CE-82%

DEVELOPMENTAL LEVEL (vertical axis): III, II, I

TIME (horizontal axis)

● : creative play act   —+— : discontinuation of theme   / : visual contact with adult

▇ : noncreative play act   —#— : play disruption   2 : verbal contact with adult

PA: total number of play acts, creative and noncreative

CA: total number of creative play acts

%CE: percentage of creative elaboration (proportion of CA to PA)

Level III seems to be difficult for them to maintain; there are many short bursts of activity into Level III, followed quickly by retreat to lower levels. At the same time, Level II is not entirely comfortable: when they retreat to it from Level III, it is not, by and large, sufficient of itself but must often be supplemented by further retreat to Level I. Especially noteworthy in this respect is the fact that one Level II theme is noticeable by its (almost complete) absence in the original play protocols: dramas about messiness. The theme of messiness is expressed, but almost entirely in primitive, direct forms, like squeezing dough or mixing it with water. Thus, this one Level II theme is rather consistently not available for the modifying effects of creative play. One might conclude, therefore, with respect to the nature of creative play at each developmental level that neither Level II nor III is entirely comfortable: Level II seems to be incompletely mastered, while Level III is still, for many of the children, over the horizon, tantalizing but threatening.

In flexibility of creative play, the children generally retreat in developmental level in order to maintain creative activity: a few children can use all three levels consistently; many have two levels at their disposal, with occasional forays into the third; some cannot move flexibly from level to level, but instead, disrupt when they try to maintain a given intensity of creative activity. Lastly, in contact with the adult in the one-to-one setting, the children approached the adult in verbal, environment-clarifying contacts less often than does the advantaged child; in contrast, they used visual means of initiating contact considerably more often than does the advantaged child.

The Three Preschool Curriculum Groups

Finally, what kinds of differences appear from group to group, within the total sample of children, with respect to the five dimensions? Sustained creative periods at age-appropriate Level III appear in descending order of frequency as the structure of the curriculum increases: children of the Open-Ended curriculum have more such periods than do those of the Teacher-Programmed curriculum, while children of the Materials-Programmed curriculum are again in an intermediate position. The nature of creative play at each developmental level differs little from group to group; one finds most commonly the pattern which characterizes the total group: gratifying Level I, incompletely mastered Level II, interesting but threatening Level III. Characteristic developmental level also differs rather little from group to group; most children are at Level II, at a combination of Levels II and III, or are wildly alternating. It can be said, however, that the only child who consistently has sustained creative periods at Level III (Paul) is in the Open-Ended curriculum. The difference in flexibility of creative play, as mentioned earlier, is one in which children of the Open-Ended curriculum move freely among the three developmental levels in order to maintain creativity, while those of the more structured curricula are more easily subject to play disruption. Finally, the groups' use of the adult in the one-to-one setting does not seem to differ: each has children who initiate contact with the adult almost not at all and those who use various combinations of verbal and visual approaches to the adult. The difference here is not between curriculum groups but

between these "disadvantaged" children and the so-called "advantaged" child. The latter emphasize verbal contact for environment-clarification, while the former emphasize visual contact for assurance of support.

Creative Play and Early Childhood Education

Structure and Creativity

Imposed structure, such as that characteristic of the Group III curriculum, would seem to render the creative play of the four-year-old "disadvantaged" child less flexible, and therefore, less available to the child, both as an educational technique and as a means of meeting the developmental tasks characteristic of his age. For play disruption, i.e. cessation of fantasy, occurs just there, in the children of the highly structured curriculum, suggesting important relationships with educational and developmental tasks. Piaget, for instance, sees the development of the symbolic function -- of which symbolic play, fantasy's concrete expression, is one component -- as the primary intellectual task of the years between the end of the sensory-motor period and the beginning of the concrete-operational period (rougly ages 2-7). On the development of this function is seen to rest the academic accomplishments of the concrete-operational period (Piaget and Inhelder, 1969, pp. 51-91).

In an even more specific way, can be seen the crucial relationships of fantasy, developmental tasks, and education. It is in symbolic play -- the young child's idiosyncratic form of fantasy -- that little children, whose other resources are so limited in comparison with those even of

the school-age child, are able to come to terms with reality and thus master the characteristics developmental tasks of each period. For the very young black child, part of his reality is the fact that his skin color matches the color of objects he must learn to discard and dissociate from himself if he is to satisfy his society with respect to cleanliness training. To learn that this same color which covers the outside of his being is also beautiful, is a complicated task, for which he needs all the resources characteristic of man. Again, for the very young child who lives in crowded housing which allows adults little privacy, part of his reality may be an early and overwhelming experience with adult sexuality, whose nature he can neither understand nor even perceive. How the young child deals with each of these realities affects not only his resolution of developmental tasks but his education, as well. When a child cannot allow himself to perceive -- to see, to hear -- areas of his life's experience because of their overwhelming nature, what effect has this on the visual and hearing functions per se -- each so crucial in successful academic work? When a child, through consonance in color, confuses himself with something discardable, what does this do to his competence as a learner? The question must thus be raised: does the highly-structured preschool curriculum, through removal of symbolic play and denial of its function, complicate mastery of these realities -- and, in consequence, produce conflict about the use of the sensory modalities necessary to mastery of both developmental and educational tasks?

Structure and Early Childhood Education

If curricular structure affects creative play, then it is important
to examine its precise nature and intent in each of the three curricula.
In the Open-Ended curriculum, its nature is articulated time and space
plus free time and space, alternating one with another; its intent, to al-
low children choice of problems and methods of exploration. In the
Materials-Programmed (Montessori) curriculum, its nature adds to the
stable framework of the Open-Ended curriculum, especially designed
"self-correcting" materials meant to accomplish its intent: to provide
the child with systematic environmental response which clarifies it (the
environment) for him. In the Teacher-Programmed (Bereiter-Engelmann)
curriculum, the nature of the structure is articulated time and space only,
its use determined by the teacher, only, and imposed on the children; its
intent is to teach standard English in a clear, didactic, fast, logically-
sequenced manner, against the approach of first grade when (it is felt, by
the curriculum's authors) the child must learn to read or else face perma-
nent educational retardation. In the first setting, the child exercises
choice with regard to learning tasks and solutions, in the second, with re-
gard to tasks but not solutions, in the third, with neither.

Thus, the crucial difference among curricula would seem to be this:
the Group III curriculum imposes (an adult-oriented) structure on the
children. It does so for the specific purpose of teaching standard English
at a fast pace, so that children will not be educationally retarded. For
this, there would appear from this study to be a price: denial of creative

play's symbolic function may damage it as a tool for mastery of educational and developmental tasks for children who need all the resources available to man's nature. One form of symbolic functioning -- creative play -- is sacrificed for another -- language. The question must arise: does that price have to be paid? Are there ways of teaching standard English which do not require such rigid imposition of adult-oriented structure, which do preserve in the curriculum the contribution choice itself makes to development of the symbolic function, which do take advantage of the child's natural capacities for language?[1] Must standard English be taught, in fact, with all possible speed? (The conclusion that it must hangs on the assumption that the child must be prepared to learn to read no later than first grade or face educational retardation. This, in turn, rests upon the assumption that print will continue to be the major method of information storage and reading of information retrieval -- a conclusion one must question in light of the rapid emergence of production technology for the new cassette video tapes, alone. When the pressure for reading print, as the primary educational method is reduced, the need to learn an elaborated language structure at break-neck

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[1] Erikson (1958) hypothesizes a positive relationship between a satisfactory "trust" period (Developmental Level I) in early infancy and an inventive and playful use of language in adulthood. What might this mean for the black child, whose early infancy (i. e. trust period), Havighurst (1946) suggests, is, among lower-class families, typically prolonged and gratifying? If the child doesn't have standard English at age three, what other positive language capacities might he have as a result of a gratifying trust period?

speed simply disappears.)[1] And more significantly, of course, the question raised is whether we cannot ever be finished with an education whose emphasis is the child's entrance into the lock-step of the system, rather than (education's) own adaptation to individual learners.

A School for the Young "Disadvantaged" Child

Thus, what does this study have to say about such an adaptive education of the young "disadvantaged" child? Clearly, the design of yet another preschool curriculum is beyond its scope, however, the study does suggest certain insights:

For the black child of this study, Developmental Level I

seemed to be a gratifying one. Since the infant's visual

experience of observing the mother's face while nursing,

and (in the black culture, particularly) the tactual exper-

ence of being rubbed with cream to enhance the blackness

of the skin, are important aspects of reality at this age,

might one not expect to find both visual and tactual per-

ception important in the black child's later education?

Might this child's tactual perception be more acute than

a white teacher (particularly) would expect, thus neces-

sitating her specific attention to design of educational

materials and situations which speak to tactual perception?

[1]For a detailed analysis of the Bereiter-Engelmann curriculum,as, in fact, a simplistic approach to the complex problem of language learning, Moskovitz (1968) should be consulted.

For the black child of this study, Developmental Level II

seemed to be incompletely mastered. Because of the con-

sonance in color between the child's own skin and the "dis-

cardables" of cleanliness training, might the teacher not

expect to provide, in the service of the child's perception

of himself as an attractive person and competent learner,

opportunities for the child to practise his differentiation

of the two? In addition, if Level II is the more usual

functional level for the four-year-old "disadvantaged"

child, might she not need to be aware, too, of the impor-

tance to the child at this period of the adult's visual atten-

tion to the child's chosen activity? In fact, might visual

perception, gratified at Level I, still have some difficulty

coming through Level II unscathed, what with the vicissi-

tudes of cleanliness training for black children and the

unavailability of adult attention in the often large families

of "disadvantaged" children?

Age-appropriate Level III was not entirely comfortable for

the children of this study. Level III would seem to pose

a special hazard in both visual and auditory perception to

the young "disadvantaged" child who lives in crowded

housing which allows adults little privacy and children

little protection from realities which, because they cannot

be understood, arouse anxiety. The child's natural defense

to overwhelming experience is to deny perception of it:
if there are realities which cannot safely be seen or
heard, then the child has either to differentiate areas
where vision and audition are acceptable or, failing this,
to dampen his use of his perceptual equipment.

It is perhaps worth adding that the only child who
consistently functioned comfortably at Level III was a
member of the Open-Ended curriculum. Is the symbolic
play of the Open-Ended curriculum and of the one-to-one
play session the method of choice in helping the child ex-
plore the concerns of this level, concerns which might,
incompletely resolved, damage the child's free use of
auditory and visual perception?

As the structure of the curriculum increases, so also
does the incidence of play disruption. The crucial quality
would seem to be adult-oriented, imposed structure, for
children of the Teacher-Programmed curriculum were not
able to handle disturbing elements of the symbolic play
with a retreat in developmental level, as children from
the other two curricula did, but, instead, were subject
to play disruption. If, therefore, the teacher sees symbolic
play as a tool of importance in the education of the young
"disadvantaged" child, must she not clearly provide the
open, choice-permitting structure which allows his imple-

mentation of it?

The children of this study approached the adult (in the one-to-one play session) for clarification of the environment less frequently than do "advantaged" children, for assurance of support, more frequently. The quality of their approaches seemed decidedly visual, a characteristic to be expected if Level II is genuinely the more usual functional level of the young "disadvantaged" child, as the Play Sequence graphs seem to indicate for this sample. For the teacher, might this not underline her need to be aware of the child's sensitivity to the adult's visual attention to his work?

It is instructive, also, to notice the quality of output of the sample children in the one-to-one setting. These children were seen by their teachers as the least capable of the group and those most in need of adult help, yet their percentage scores for creative activity run frequently in the 70's and above, and seldom fall below 50%. A qualitative study of the play protocols indicates a poignancy and power of expression which is different from but does not suffer by contrast with that of "advantaged" children. Can this help but say to the teacher that the one-to-one relationship with adults may be crucial in the learning of the "disadvantaged" child?

VI. SUMMARY

This study has examined the creative play of the "disadvantaged" four-year-old child in three different preschool curricula. The three curriculum groups, part of an urban Head Start program, were the Open-Ended, in which both problems and solutions are determined by the child; the Montessori, in which problems are determined by the child, solutions by the materials; the Bereiter-Engelmann, in which both problems and solutions are determined by the teacher.

All subjects were black children between the ages of 4-0 and 4-11; two boys and two girls were chosen from each group according to the following criterion of "disadvantage": the management of environmental details and their differentiation, one from another, is not emphasized by the primary caretaking adults. Creative play, in this study, was seen as synonomous with Piaget's symbolic play.

Each child was observed in four thirty-minute play sessions with play materials consisting of miniature life toys, construction materials (small unit blocks), and plastic material (dough). The sessions, recorded by tape and the experimenter's continuous running notes, were transcribed immediately following the sessions. Play protocols thus obtained were analyzed for creative and noncreative play acts, and for Eriksonian developmental levels.

Hypothesis testing by use of analysis of variance indicated no sig-
nificant difference between groups with respect to numbers of creative
acts and with respect to proportion of creative acts to play acts. Dif-
ference significant at the .05 level between the Open-Ended and the
Bereiter-Engelmann curricula in numbers of play acts was found, how-
ever, with the latter subjects showing a significantly smaller number
than the former.

Qualitative examination of the play protocols indicated the cause
of this difference (in number of play acts) to be a greater incidence of
play disruption among children of the Bereiter-Engelmann curriculum.
While children of all three groups maintained the same intensity of
creative activity, the price of this intensity for the Bereiter-Engelmann
children was more frequent play disruption, in which they were unable
to maintain contact with the play materials (thus, the number of play
acts was reduced). Children of the Open-Ended curriculum substituted
a retreat in developmental level (thus continuing their play) for disrup-
tion, while children of the Montessori curriculum fell into an intermedi-
ate position, with some disruption and some regression in developmen-
tal level.

Qualitative examination of the play protocols further suggested the
importance of the one-to-one relationship with young "disadvantaged"
children. Despite their so-called "disadvantage," creativity scores of
all children were high in the individual play setting.

Finally, qualitative examination of the play protocols suggested relationships between Eriksonian developmental levels and "disadvantage" which might warrant further study. Children of this sample seemed to show a very gratifying trust period; if so, then those perceptual qualities significant to education which have special relevance at this time, such as visual and tactual perception, might be relatively intact. The autonomy and initiative periods seemed less comfortable, with the former perhaps incompletely mastered and the latter, although age-appropriate, difficult to maintain for lengthy creative play. Thus, the question arises whether those perceptual qualities which have special relevance at this time, such as visual and auditory perception, might also be constricted. Educational strategies which take advantage of the kind of visual and tactual qualities characteristic of Level I and which allow children to rebuild visual and auditory qualities characteristic of Level II might be suggested.

APPENDICES

APPENDIX I

PLAY INTERVIEW MATERIALS

Miniature Life Toys

Bendable rubber figures representing a family, child's own race.

Community figures, child's own race (policeman, fireman, mailman).

Open car large enough to accommodate (above) rubber figures.

Play house furniture, including sets for living room, bedroom, kitchen,

bathroom. (Couch, easy chair, television set, table and three

chairs, kitchen cupboard, sink, stove, refrigerator, double bed,

single bed, cradle, bathtub, toilet, bathroom sink. The refrig-

erator contained a handful of peanuts for the children to eat when

they chose. There were also carpet and linoleum squares

available as flooring materials.)

Miniature dramatic play items, small enough for use with miniature life

toys above: plastic razor and blade; jar of cream; woman's com-

pact; girl's ring with blue stone; tiny plastic gun; tiny plastic

pipe; set of small plastic dishes with cups and glasses; small

plastic bucket; small plastic dishpan; small plastic dustpan;

two tiny brushes, one with handle and one without; small hair-

brush; tiny mirror.

Child-size Dramatic Play Items

Nursing bottle filled with water

Rubber gun (with ping-pong-ball-bullet) which requires squeezing of gun

barrel for propulsion

Construction Materials

Set of small unit blocks containing the usual shapes:

units, double-units, quadruple-units, unit-size arches and half-

circles to fill them, large and small columns, large and small

cylinders, complementary triangles of unit-size, complementary

triangles of half-unit size.

Plastic Materials

Dough: Yellow (Session I); Green (Session II); Blue (Session III);

Orange (Session IV)

APPENDIX II

SAMPLE PLAY PROTOCOLS

Cary -- I

Cary rings the bell on the telephone, saying, "Hello, hello...yes ma'am, yes -- I'd like a police car." Turning now to the car, he fiddles with the lid of the trunk, rather absently lifting it up and down and murmuring, "got burned up in the fire...police couldn't get him." Putting the fireman in the driver's seat of the car, Cary continues, "Went to the hospital, doctor says..." (He doesn't say what the doctor says.) He turns to the tiny toys, shaves his face with the razor, brushes his hair with the hairbrush, and looks at himself in the tiny mirror. He brushes his teeth and hair, and finally tells himself, "Sit down and wait for the time."

Now Cary gets the bed, loads the mailman into the trunk of the car, and speaks of going to the hospital. Abruptly, his moving glance lights in the microphone of the tape recorder, and the tape recorder itself, and asks me what it is. After I've told him, "A tape recorder--it's not one of the toys," he loads another bed-with-person (the policeman) in the car. Moving the car back and forth, Cary murmurs softly, in rapid succession, "Fight! Get a gun! Shoot!

Catch 'em?" He turns to the telephone again, and as he holds the re-
ceiver to his ear, he asks himself about the gun which lies nearby:
"What's this?" "A gun," he answers himself. He continues to phone,
at first with no words, then finally with quite a loud "HELLO!" "Yes,
yes," he continues, "come and get the fire -- it's burning up the whole
house." Hanging up the phone, Cary stops to examine the microphone
again, looking up at me, then, with a very serious, almost frowning,
expression on his face.

As he returns to his play, a genuine telephone in the office next
door rings. Cary incorporates this into his play, answering his own
phone with a "Yes, yes." He takes up the gun in his hand, catches my
glance as I look up from writing, and smiles self-consciously. His
movement in the general area of the car has caused the mailman to fall
from his cot in the trunk of the car. As he notices this, Cary says softly,
"Come back." He takes out both beds, leaving only the people in the car
(mailman in the trunk section, policeman in the back seat). "Call some-
one to come and get you," he says, "might be a doctor; doctor might give
you a needle."

Now Cary notices the cradle, asking me what it is. As I answer,
"A cradle," he goes to the refrigerator to get himself some nuts. He eats,
looking about him and noticing that the drawers of the chest are hanging
out. "Hey!" he says, and sets to work fixing them. He glances over at
the tape recorder and says quite clearly, almost explosively, "Tape re-
corder!"

Cary picks up the gun and is about to shoot, but again stops his movement as he notices my glance. He telephones again, ringing and ringing the phone and answering finally with a loud "Hello" and the information that "it's after eight!" Back at the car, Cary says, "You have to go back to the hospital," and he has the fireman carry the postman in his arms. He interrupts himself to look at the microphone, then goes on, "His name is Johnny, Johnny Loffo." Cary goes over to the family figures lying close by, picks up the boy, and says, "He puts on his clothes -- shoes, pants, shirt." (Each one is clearly specified by the tone of his voice, and when he says, "shirt," he interrupts himself to point out his own attractive yellow shirt. Now, the drama increases in urgency, and the following is told with great risings and fallings of Cary's voice.)

"Johnny asked his Daddy what happened. He said, 'They took me to the hospital, pulled my tooth out.'" Now Cary takes the boy and father figures to the car, standing them up to face each other. "Johnny got big and big," Cary intones in a longing but truly believing voice. He pauses in speech, as if he suddenly perceives the comparative size of the two figures, then continues, "Johnny got little and little"...another pause, then..."big and big," and quite firmly, "straight and tall like his Daddy." Now he places both boy and father in the trunk, murmuring, "take them to the hospital...maybe die." He stops to examine the tape recorder, pauses in thought for a few seconds. Turning to me, he asks, "Where's the Daddy?" "Where is he, do you think?" I ask him. He returns to the car, stands the boy, Johnny, in the trunk and the father figure on the floor

next to the trunk. Driving the car away, Cary separates the two; the Daddy calls after Johnny longingly, then says with great feeling, "I loved Johnny, I loved him." Now Cary puts the father in the driver's seat of the car, drives the car away, saying, "They couldn't touch Johnny in the hospital -- know why? -- he got runned over -- was a police car, a police car..." Enunciating clearly, he says to me, "I can't get dirty." Returning to the car, he says, "Johnny has to go to the hospital." It is long past time to stop, unfortunately, and I must give him a time warning.

Cary stops his play with the miniature life toys, and comes over to the dough to ask what it is and to give it a few pats. Then he gets himself some nuts, eating some, and opening the doors of the cupboard as if to put some of the nuts in there. He eats them all, however.

Theresa -- I

Theresa is moving the car, filled with people, around the floor.
(She has placed the father figure in the driver's seat, the mother next to
him in the front seat, the girl behind the father, the boy behind the
mother, and the baby between the two children.) Now she takes the chil-
dren out, putting the baby in the single bed on his tummy. The girl she
places beside the baby. As she does so, she straightens each person
out carefully, so that they are no longer bent from sitting in the car.
Asking if he can sleep in this bed, she places the boy in the double bed,
then changes the baby to a place next to the boy. The mother figure she
puts between the boy and the baby. Now she looks for a place for the
father. She pauses to turn over the mother and baby in their bed, notes
the television set, and asks what it is. Deciding it is indeed a television
set, Theresa sets it up in front of the couch and seats the father on the
couch so he can watch. She moves the baby to a chair, and the mother
also -- but she is dissatisfied with the latter placement and does not com-
plete it. The boy, too, is out of bed. Now she returns the mother and
baby to the double bed, adding the girl to this group so that the baby is in
the middle this time. Father remains on the couch.

Now Theresa stops to go to the clay, asking me where to play with
it and if "it's to eat." When I reply, she asks again in a singsong voice as
if talking to herself. A third time she asks me where to play with it before

I realize she wants to take some to the playhouse scene nearby. When I reassure her about this, she takes some now and fills the oven. Once it's filled, she tries to get some of it out of the oven, and when successful, she puts some in the drawers of the chest and some in the cupboard. Pulling the rest of the dough from the oven, Theresa remarks to me on its stickiness. She walks up and down, kneading the dough, then takes it back to the table where she pounds it. She asks if I am "scared of clay?" When I answer "No," she murmers the question again as if talking to herself, and adds that she is, "it's dirty." Again, she takes the dough to the playhouse scene, first to the table then to the stove. She gets more dough, asking me again, "You scared of clay?" Receiving another reply of "No," she sets about, humming to herself, getting plates for the table and setting it up. As she works on placing the chairs around the table, she knocks against the refrigerator and, picking it up, opens it to find the peanuts inside.

When I mention that they are for her, Theresa pauses to eat, standing up away from the playhouse and smiling slightly as she catches my glance when I look up from writing. Taking the nuts to the table, she spreads them out there and eats in a leisurely way. She notices my coat hanging up nearby, asking whose it is and if the toys are mine, as well. Back she goes to get more nuts, and then she returns, as well, to the dough in the oven, calling it food. She continues eating her nuts.

Picking up the boy, who has been on the floor, Theresa asks where he can sleep. She finds an empty single bed for him, also noticing as she

does so, the baby's cradle; she asks herself where the baby is, but does not move it from its earlier placement in the double bed. The father has been sleeping on the couch; now Theresa seats him in front of the television set. She helps herself to more nuts, smiling slightly as she catches my glance.

Now she notes the telephone, taking off the receiver and trying the dial. She puts the receiver to her ear, not speaking; she continues to turn the dial and ring the bell. Finally, she says, "Hello...hi."

As she sets down the telephone receiver, Theresa notices the gun lying nearby, and asks me how to shoot it. She tries it herself and is successful in shooting, although she does seem to have trouble getting the ball back into the gun. Several more times she shoots, first high in the air, then across the room, then back again where she is, again high in the air. She stops to eat some nuts, again laying them out on the table and eating in a leisurely way. She starts to return some nuts to the playhouse, but, instead, stays where she is and eats. Now she takes up the dough, patting it gently, then leaning on it, patting it, finally pounding it and squeezing it between her fingers.

Brady -- I

Removing the tiny toys from the trunk of the car, Brady puts the three community figures there instead. He turns to the house furniture, placing two single beds together to make a double bed, then puts all three children together in another single bed. The mother and father, who kiss each other first, are placed in the double bed. Gazing thoughtfully at the community helpers in the trunk of the car, Brady changes the parent figures to the front seat of the car. In addition, he puts the children and all the beds, as well, in the back seat. This arrangement is short-lived, however, for he takes the beds out again, setting them up as a double bed and a single bed. He picks out the fireman and mailman from the trunk, stops to open the refrigerator but closes it again. He examines the television set momentarily, then lines up three chairs which are identical, and seats the fireman, postman, and policeman in them.

Now Brady places all the children in the trunk, the mother in the back seat of the car, and the father in the front seat. He tries to close the trunk, finds he can't. Re-arranging the parents so the father is in the driver's seat and the mother next to him, Brady takes the older children out of the trunk and closes it with the baby still inside. Now the boy kisses the girl, as earlier the father had kissed the mother. Brady puts the children in the back seat of the car, the boy behind the father and the girl behind the mother.

Returning to the box of tiny toys, Brady sweeps the rug with the small broom, and then brushes his own hair with it as well. He handles the table thoughtfully, places the girl on the table, sets a chair next to it. Turning to the phone, he calls the doctor, telling him to come along over.

Brady moves the car back and forth, and as it arrives, father and boy get out to carry the girl on the table, stretcher-fashion, to the car, where she is placed alone in the back seat. Father goes to the driver's seat, boy beside him. Now the fireman takes the girl from the table in the car, lays her on the floor, and with the help of the postman, picks her up. In surveying the scene as if to decide where to put her next, Brady catches my eye. He pauses to pick up the sink. Then the action continues: the two men put the girl first in a bed, then in the bottom of the Welsh cupboard, then in one of the shelves at the top of the cupboard. The last is difficult to manage, and Brady persists until he's successful. Now he reaches for the refrigerator, but puts it down as he glances at me.

Brady moves the car a bit, handles the gun, takes the car around the house area. He turns mother and father around in the car (they have been facing backward), then he takes them out, has them embrace each other, and puts them in the double bed. He has made no visible response when I give him a time warning. He continues with the family figures, placing mother in the car and father in the driver's seat, and children together in the back seat. When he finally realizes we must stop, Brady

returns the miniature life toys to the house, gathers up the dishes into

their box, places all the tiny toys together in their box, opens and

closes the door of the refrigerator.

SCORING

Behaviors Characteristic of Developmental Level I

Level I includes the behaviors of trust and dependence on adults

characteristic of infancy (i.e. the period before the child achieves

independent locomotion). It is a period dominated by episodes of adult

care of the dependent child. The child, in play, may take either the

role of the dependent child or of the need-meeting adult. The following

are scored as Level I behaviors.

Dramas of eating, feeding, food preparation

Examples: Child feeds baby.
Child sets table for a meal and
apportions food.

Interest in food containers

Example: Child, having discovered a snack
in the toy regrigerator, looks in
the stove and Welsh cupboard
for food.

Dramas of child care, i.e. rocking, dressing, grooming and

the like. (However, when grooming, rather than being a

part of other items of child care, is an elaboration of

grooming per se, it is scored at Level II. See examples.)

Example: Child bathes children and puts them to

bed, with a snack, first. (If child bathes
all figures, adult and child alike, and goes
on to brush hair, hold up mirror, for
instance, the response is scored at Level II,
interest in grooming per se, rather than
Level I, interest in dependent care.)

Behaviors Characteristic of Developmental Level II

Level II includes behaviors characteristic of the developing autonomy and independence of the child from the adult, characteristic of the baby who has achieved independent locomotion. In our culture, this is a period in which the adult-child relationship is dominated by cleanliness training. Thus, the child's developmental tasks are two-fold: to achieve a beginning understanding of himself as a person separate from the persons of his parents, despite his continuing dependence on them to sustain his life; and, in this context of alternating dependence and independence, to learn to exercise body mastery with respect to cleanliness in a way acceptable to the society. Thus, the specific behaviors in this period cluster around two areas.

Separation-Individuation Continuum

Dramas about going away and returning, about separation and reunion of people.

> Example: Child places figure of boy in the car
> and stands the father figure next to it.
> Drawing the car away from the father,
> he separates the two figures, saying for
> the father, "I loved Johnny, I loved him."

"Back and forth" themes

> Example: Child loads the car with family figures
> and, saying " 'Bye," drives them to the
> far corner of the room, then returns,
> this time saying to me, "Hi." She con-
> tinues this several times more.

Hiding and returning themes, which have a "now you're here, now you're not" quality.

> Example: As the child shoots the gun, he hides behind the table, jumping out to retrieve the ball and re-load the gun, then returning to a place of hiding for the next shot.

Forming and/or dismantling of complementary pairings, i.e. pairings of objects which need the complementary object for completion.

> Examples: Child pairs dustpan and brush, or bucket and mop.
> Child pairs adult and child figures.
> Child, filling square hole in box of blocks, pairs the two triangular blocks which will fill the hole.

Cleanliness-Messiness Continuum

Direct use of plastic materials for squeezing, patting, mixing with water; cleaning up.

> Example: Child squeezes dough, adds water and squeezes dough through his fingers.

Ordering of the environment

> Example: Child knocks the carpets in the playhouse out of place and stops to replace them before going ahead.

Dramas about messing and/or cleaning

> Examples: Child shaves his own face, brushes his hair and teeth, looks in the mirror at himself.
> Child says she's making bread, and kneads and pounds the dough.

Interest in containment and release, in holding onto and

giving out, sometimes literally in closings and openings.

(Just one or the other of the pairings, or both together,

may be explored. Containment and expression of messi-

ness, in particular, is a common theme.)

> Examples: Child mixes water with dough, pats and
> squeezes it, remarking on its stickiness.
> Then he fills each drawer of the chest
> with sticky dough.
> Child opens and closes each bottle, say-
> ing, "Open it up, close it up, open it up,
> close it up."

Behaviors Characteristic of Developmental Level III

Level III includes behaviors expressive of the preschool child's developing differentiation of male and female identities, and understanding of their relationship in his culture. Thus, behaviors, here, cluster into two areas, first, differentiation of male and female, and secondly, apprehension of the personal relationship between the two.

Male-Female Differences

Interest in characteristics of each sex. Associations of male figures and/or objects, or associations of female figures and/or objects.

> Examples: Child divides miniature life toys
> into those which are male figures
> and those which are female figures.
> Child associates father figure with
> tiny toy razor.

Definition of male or female roles

> Example: In the child's drama, the stretcher
> is carried by male figures.

Dramas about male or female identity:

> Example: Child has mother prepare meal for
> the family, bathe the children and
> put them to bed. Mother and father
> kiss each other and are placed in the
> double bed. (Because this is an elab-
> orated statement of the feminine identity,
> it is placed at Level III. Had it included
> only one element of the feminine identity

such as maternal care of children,
it would have been placed -- in that
case -- at Level I.)

. Interest in or dramas about body damage, body extensions,

extensions per se, and enclosure of inner space.

Examples: Child places girl on the stretcher, and
phones for the doctor to come and take
her to the hospital.
Child bends the arms and legs of each
figure up and down. He continues until
he's checked each figure.
Child builds a tower of two cylinders,
·topped by a tiny triangle. He continues
making identical towers until all the
cylinders are gone, continuing, then,
with columns.
Child opens the drawers of the chest,
looking inside each. Then he looks be-
hind the doors of the Welsh cupboard,
into the oven and the sink, and finally
opens the doors below the sink to look
inside.

Male-Female Relationship

Pairings of male and female objects and/or,figures.

Examples: Child stands up mother and father figures
to face each other, then does the same with
the boy and girl figures.
Child gathers up pipe and razor, powder
compact and dishes, placing them all to-
gether in the trunk of the car.

Dramas about male-female relationships.

Example: Child places father in the driver's seat of
the car, mother next to him, and children
together in the back seat of the car.

Dramas about competition between child and adult of the

same sex.

Example: Child stands up mother and father facing each other, then has the little girl creep up behind the mother and knock her over.

Sample Scoring

Differentiation of play acts, one from another, and from each other.

. . . (Taking the nuts to the table,

she spreads them out there and eats

in a leisurely way. [1]) (She notices   1. Play Act

my coat hanging nearby, asking whose

it is, and if the toys are mine, as

well. [2]) (Back she goes to get more   2. Non-Play Act

nuts, [3]) and then she returns, as   3. Play Act

well, to the dough in the oven, call-

ing it food. [4]) . . .   4. Play Act

Classification of play acts according to developmental level

. . . (Taking the nuts to the table,

she spreads them out there and eats

in a leisurely way. [1]) (She notices my   1. PA--Level I (eating)

coat hanging nearby, asking whose it is,

and if the toys are mine, as well. [2])   2. NPA

(Back she goes to get more nuts, [3]) and   3. PA--Level I (eating)

then she returns, as well, to the dough

in the oven, calling it food. [4]) . . .   4. PA--Level I (eating)

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. . . (she takes some (dough) now

and fills the oven.[1]) (Once it's

filled, she tries to get some of it out

of the oven, and when successful, she

puts some in the drawers of the chest

and some in the cupboard.[2]) (Pulling

the rest of the dough from the oven,

Theresa remarks to me on its sticki-

ness.[3]) (She walks up and down,

kneading the dough,[4]) then takes it

back to the table, where she pounds

it.[5]). . .

. . . (She has placed the father figure

in the driver's seat,[1]) (the mother

next to him in the front seat,[2]) the

girl behind the father,[3]) (the boy

behind the mother,[4]) and the baby

between the two children.[5]) (. . .

she places the boy in a double bed,

then changes the baby to a place

next to the boy.[6]) (The mother

figure she puts between the boy[7])

(and the baby[8])

1. PA--Level I (eating)

2. PA--Level II (contain-
   ment and release)

3. PA--Level II (messing)

4. PA--Level II (messing)

5. PA--Level II (messing)

1. PA--Level III (defines
   male identity
2. PA--Level III (male-
   female relationship)
3. PA--Level III (male-
   female relationship)
4. PA--Level III (male-
   female relationship)
5. PA--Level II (child class-
   ification)

6. PA--Level II (child class-
   ification)
7. PA--Level III (male-female
   relationship
8. PA--Level II (part-counter-
   part relationship)

Differentiation of creative acts from noncreative acts

. . . (Taking the nuts to the table,

she spreads them out there and eats

in a leisurely way. [1]) (She notices   1. PA--I (eating)--Noncreative

my coat hanging nearby, asking whose

it is, and if the toys are mine, as

well. [2]) (Back she goes to get more   2. NPA

nuts, [3])(and then she returns, as well,   3. PA--I (eating)--Noncreative

to the dough in the oven, calling it

food. [4]) . . .   4. PA--I (eating)--Creative

. . . (she takes some (dough) now

and fills the oven. [1]) (Once it's filled,   1. PA--I (eating)--Creative

she tries to get some of it out of the

oven, and when successful, she puts

some in the drawers of the chest and

some in the cupboard. [2]) (Pulling the   2. PA--II (containment and
                                                  release)--Creative
rest of the dough from the oven,

Theresa remarks to me on its sticki-

ness. [3]) (She walks up and down,   3. PA--II (messing)--Non-
                                                  creative
kneading the dough, [4]) (then takes it   4. PA--II (messing)--Non-
                                                  creative
back to the table, where she pounds

it. [5]) . . .   5. PA--II (messing)--Non-
                                                  creative

. . . (She has placed the father

figure in the driver's seat, [1]) (the

mother next to him in the front

seat, [2]) (the girl behind the

father, [3]) (the boy behind the

mother, [4]) (and the baby between

the two children. [5]) (. . . she

places the boy in a double bed,

then changes the baby to a place

next to the boy. [6]) (The mother

figure she puts between the boy[7])

(and the baby. [8]) . . .

1. PA--III (defines male identity)--Creative

2. PA--III (male-female relationship)--Creative
3. PA--III (male-female relationship)--Creative
4. PA--III (male-female relationship)--Creative
5. PA--II (child classification)--Creative

6. PA--II (child classification)--Creative
7. PA--III (male-female relationship)--Creative
8. PA--II (part-counterpart relationship)--Creative
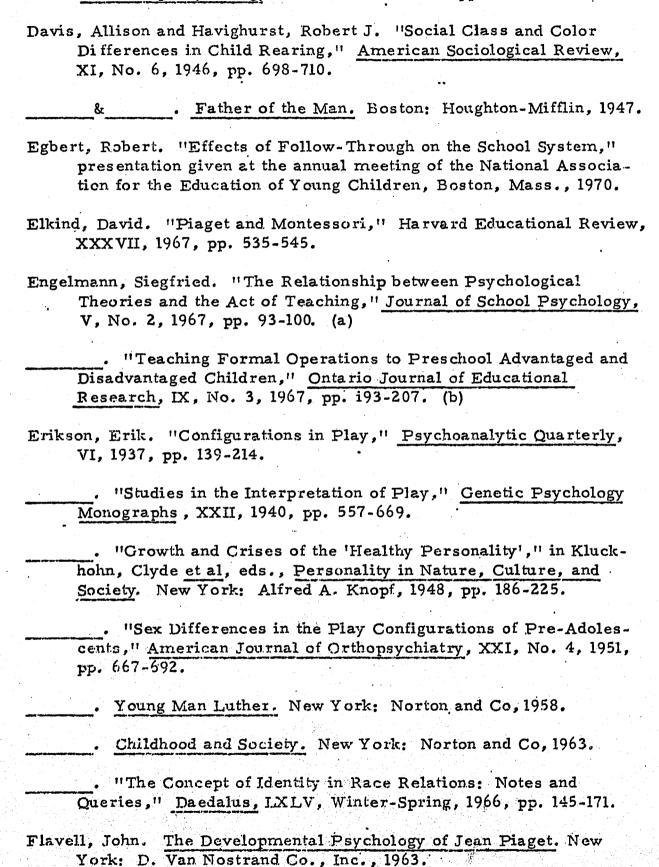
BIBLIOGRAPHY

BIBLIOGRAPHY

Baldwin, Alfred L. Theories of Child Development. New York
    John Wiley and Sons, Inc., 1967.

Banta, Thomas J. "Research on Montessori and the Disadvantaged",
    in Orem, R.C., ed., Montessori and the Special Child. New
    York: Putnam, 1967, pp. 171-176.

Banta, Thomas J. "Progress Reports, Montessori Research Project,
    University of Cincinnati," The American Montessori Society
    Bulletin, VII, No. 1, 1969.

Benedek, Therese. "Personality Development," in Alexander, F. and
    Ross, H., eds., Dynamic Psychiatry. Philadelphia: Lippincott,
    1952, pp. 63-111

Bereiter, Carl and Engelmann, Siegfried. Teaching Disadvantaged Chil-
    dren in the Preschool. Englewood Cliffs: Prentice-Hall, 1966.

Bereiter, Carl; Osborn, Jean; Engelmann, Siegfried; Reidford, Philip.
    "An Academically-Oriented Preschool for Culturally Deprived
    Children," Institute for Research on Exceptional Children, Uni-
    versity of Illinois, 1965. (Mimeographed)

Berger, Barbara. "A Comparative Investigation of Montessori and
    Traditional Prekindergarten Practices," The American Montes-
    sori Society Bulletin, VIII, No. 2, 1970.

Bernard, Jessie. Marriage and Family Among Negroes. Englewood
    Cliffs: Prentice-Hall, 1966.

Billingsley, Andrew. Black Families in White America. Englewood
    Cliffs: Prentice-Hall, 1968.

Blos, Peter. On Adolescence. New York: The Free Press, 1962.

Coles, Robert. Children of Crisis. Boston: Little, Brown, 1967.

Datta, Lois-Ellin. "Draw-a-Person Test as a Measure of Intelligence
    in Preschool Children from Very Low Income Families," Journal

Consulting Psychology, XXXI, No. 6, 1967, pp. 626-630.

Davis, Allison and Havighurst, Robert J. "Social Class and Color Differences in Child Rearing," American Sociological Review, XI, No. 6, 1946, pp. 698-710.

_____ & _____. Father of the Man. Boston: Houghton-Mifflin, 1947.

Egbert, Robert. "Effects of Follow-Through on the School System," presentation given at the annual meeting of the National Association for the Education of Young Children, Boston, Mass., 1970.

Elkind, David. "Piaget and Montessori," Harvard Educational Review, XXXVII, 1967, pp. 535-545.

Engelmann, Siegfried. "The Relationship between Psychological Theories and the Act of Teaching," Journal of School Psychology, V, No. 2, 1967, pp. 93-100. (a)

_____. "Teaching Formal Operations to Preschool Advantaged and Disadvantaged Children," Ontario Journal of Educational Research, IX, No. 3, 1967, pp. 193-207. (b)

Erikson, Erik. "Configurations in Play," Psychoanalytic Quarterly, VI, 1937, pp. 139-214.

_____. "Studies in the Interpretation of Play," Genetic Psychology Monographs, XXII, 1940, pp. 557-669.

_____. "Growth and Crises of the 'Healthy Personality'," in Kluckhohn, Clyde et al, eds., Personality in Nature, Culture, and Society. New York: Alfred A. Knopf, 1948, pp. 186-225.

_____. "Sex Differences in the Play Configurations of Pre-Adolescents," American Journal of Orthopsychiatry, XXI, No. 4, 1951, pp. 667-692.

_____. Young Man Luther. New York: Norton and Co, 1958.

_____. Childhood and Society. New York: Norton and Co, 1963.

_____. "The Concept of Identity in Race Relations: Notes and Queries," Daedalus, LXLV, Winter-Spring, 1966, pp. 145-171.

Flavell, John. The Developmental Psychology of Jean Piaget. New York: D. Van Nostrand Co., Inc., 1963.

Frazier, E. Franklin. The Negro Family in the United States, revised edition. Chicago: University of Chicago Press, 1966.

Freud, Anna. Normality and Pathology in Childhood. New York: International Universities Press, 1965.

Grier, William H. and Cobbs, Price M. Black Rage. New York: Basic Books, Inc., 1968.

Harris, Dale B. Children's Drawings as a Measure of Intellectual Maturity. New York: Harcourt, Brace, 1963.

Hull, William and Kallet, Anthony. "Continued Explorations with Five-Year-Olds: Some Psychological Considerations," Elementary Science Study, Educational Development Corporation, Watertown, Mass., 1963. (Mimeographed)

Hunt, J. McVicker. "The Psychological Basis for Using Pre-School Enrichment as an Antidote for Cultural Deprivation," Merrill-Palmer Quarterly, X, No. 3, 1964, pp. 209-248.

_____. "Evolution of Current Concepts of Intelligence and Intellectual Development," The American Montessori Bulletin, VI, No. 4, 1968.

Klein, Jenny. "Head Start Models," presentation at the annual meeting of the National Association for the Education of Young Children, Boston, Mass., 1970.

Kohlberg, Lawrence. "Some Research on the Montessori Approach to Work with Culturally Disadvantaged Children," in Hess, Robert D. and Bear, Roberta Mayer, eds., Early Education. Chicago: Aldine Publishing Co., 1968, pp. 105-118.

_____. "Early Education: A Cognitive-Developmental View," Child Development, XXXIX, No. 4, 1968, pp. 1013-1062.

Kris, Ernst. "Neutralization and Sublimation: Observations on Young Children," Psychoanalytic Study of the Child, X, 1955, pp. 30-46.

Mahler, Margaret. "Thoughts about Development and Individuation," Psychoanalytic Study of the Child, XVIII, 1963, pp. 307-324.

_____. "On the Significance of the Normal Separation-Individuation Phase," in Schur, M., Drives, Affects, Behavior, Vol. 2. New York: International Universities Press, 1965, pp. 161-169.

_____. On Human Symbiosis and the Vicissitudes of Individuation, Vol. 1. New York: International Universities Press, 1968.

_____ & Furer, Manuel. "Certain Aspects of the Separation-Individuation Phase," Psychoanalytic Quarterly, XXXII, No. 1, 1963, pp. 1-14.

Mattick, Ilse. "Adaptation of Nursery School Techniques to Deprived Children," Journal of the Academy of Child Psychiatry, IV, No. 4, October 1965, pp. 670-700.

Miller, James O. "Review of Selected Intervention Research with Young Children," an Occasional Paper, Educational Research Information Center, National Laboratory on Early Childhood Education, University of Illinois, 1969.

Montessori, Maria. The Montessori Method. New York: Schocken Books, 1964.

_____. Dr. Montessori's Own Handbook. New York: Schocken Books, 1965.

Moody, Anne. Coming of Age in Mississippi. New York: Dial Press, 1968.

Moore, O. K. "Autotelic Responsive Environments and Exceptional Children," in Harvey, O. J., ed., Experience, Structure, and Adaptability. New York: Springer Publishing Co., 1966, pp. 169-215.

_____. "The Talking Typewriter in the Ghetto," in Pitt, XXV, No. 1 Winter 1969, pp. 15-19.

Moskovitz, Sarah Traister. "Some Assumptions Underlying the Bereiter Approach," Young Children, XXIV, No. 1, October 1968, pp. 24-31.

Myers, Jerome L. Fundamentals of Experimental Design. Boston: Allyn and Bacon, 1966.

Parker, Ronald, et al. An Overview of Cognitive and Language Programs for Three-, Four-, and Five-Year-Old Children. Atlanta: Southeastern Educational Laboratory, 1970.

Pavenstedt, Eleanor. "Contrasts in Early Child-Rearing at the Upper and Lower Extremes of the Lower Class," American Journal of Orthopsychiatry, XXXV, No. 1, January 1965, pp. 89-98.

Piaget, Jean. _Play, Dreams and Imitation in Childhood._ New York: W.W. Norton and Co., Inc., 1951.

_____ and Inhelder, Bärbel. _The Psychology of the Child._ New York: Basic Books, Inc., 1969.

Rainwater, Lee. "Crucible of Identity," _Daedalus_, LXLV, Winter-Spring 1966, pp. 172-211.

Rambusch, Nancy McCormick. _Learning How to Learn: An American Approach to Montessori._ Baltimore: Helicon Press, 1962.

Schulz, David. _Coming Up Black._ Englewood Cliffs: Prentice-Hall, 1969.

Sprigle, Herbert. "A Fresh Approach to Early Childhood Education, and a Study of Its Effectiveness," Report to the Carnegie Corporation, 1968.

Stone, L. Joseph and Church, Joseph. _Childhood and Adolescence,_ second edition. New York: Random House, 1968.

Van de Riet, Vernon; Van de Riet, Hanni; Sprigle, Herbert. "Effectiveness of a New Sequential Learning Program with Culturally Disadvantaged Preschool Children," _Journal of School Psychology_, VII, No. 3, 1968-69, pp. 5-15.

Winer, B. J. _Statistical Principles in Experimental Design._ New York: McGraw-Hill, 1962.

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