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LANGUAGE DEVELOPMENT IN PRESCHOOL CHILDREN

by

Claudia Jean Fuhriman

ACKNOWLEDGMENTS

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ABSTRACT

A thesis submitted in partial fulfillment
of the requirements for the degree

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in

REVIEW OF LITERATURE

Child Development

The Development of Language

Genetic Development

Growth of Vocabulary

Sentence Structure and Grammatical Form

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ACKNOWLEDGMENTS

I would like to sincerely thank and express my appreciation to the many people who have made this study possible. To Mrs. Carroll C. Lambert I express my gratitude for her encouragement, guidance, and constructive direction in helping me formulate and complete this study. Acknowledgment is due Dr. Don C. Carter for his suggestions and countless hours of assistance. My appreciation is also extended to Mr. Arthur D. Jackson for his continuously helpful examination.

Others who assisted in this study and to whom I wish to express thanks include the head teachers in the Child Development Laboratory at Utah State University and the Head Start teachers in the schools in the Ogden City School District participating in this study. I would also like to thank Dr. Rulon Garfield, director of special services in the Ogden City School District, and the principals in the schools used in this study for their cooperation and assistance. My thanks I also express to the parents of the children used in this study.

I express my appreciation to my roommates for their injected motivation, encouragement, and patience. Finally, particular gratitude is due to my family for the continued encouragement and support they have given me while working on this study.

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ABSTRACT

Language Development in Preschool Children

by

Claudia Jean Fuhriman, Master of Science

Utah State University, 1969

Major Professor: Mrs. Carroll Lambert
Department: Family and Child Development

The differences in the language labeling of Head Start or lower-socioeconomic-class children and nursery school or middle-socioeconomic class children were studied in this research. Also studied were the differences among children within the two classes in their ability to label concrete objects and actions compared with pictures of the same things or actions.

Forty-eight children (24 Head Start and 24 nursery school) matched in sex and as closely as possible in age, were given a verbal labeling test which included questions in four areas: foods, animals, action words, and positional words. There were 40 questions, and half were of a real or concrete nature, and the other half were items in the form of picture questions.

The results indicate that there is a difference in the language labeling of the middle-class child compared with the language labeling of the lower-social-class child. Also, when responding incorrectly, the middle-class child more often than the lower-social-class child made a response that more closely resembled the correct response either in appearance or semantically.

The other finding was that there is no difference among children within each social class in this study in the labeling of real things or actions compared to pictures of the same things. In the area of positional words there was a difference among the children within the two groups: in this group the middle-class children had more correct responses on the picture questions while the lower-social-class children had more correct responses on the concrete questions.

(142 pages)

INTRODUCTIONS

Language has long been seen as one of the most important facets in the development of the young child whether it be in expressing himself, communicating feeling and emotion, or in the process of thought-- in converting specific pieces of information into meaningful concepts.

Language is the basis of human interaction. It is, perhaps, the most amazing intellectual achievement of the human brain. It also seems to be true that the child whose experience and background have provided him with good verbal abilities usually will exceed the verbally destitute child in almost every intellectual endeavor (Deutsch, 1965). Language, then, is a dimension through which an unfavorable environment can inhibit development. Language impoverishment can be the basic cause of a child's educational handicap and his later failure in school. Thus it seems that "the structure of experience as mediated through particular environments may influence the patterning of linguistic response" (John and Goldstein, 1964, p. 275).

The child's language growth during the first two years of life is primarily in the nature of increasing comprehension of the speech around him. By age two, he has developed a speaking vocabulary which may range from three to 300 words. In the next two years he not only uses labels having single referents, but also labels which have multiple referents (John and Goldstein, 1964). Thus, the child's use of language labels occurs early in his verbal development.

The definition of labeling for the purpose of this study will be the title, name, or word given to an object or referent. John and

Goldstein (1964, p. 267) state that "Learning labels requires selective attention--the inhibition of irrelevant aspects of the learning environment."

Language development is a difficult task of childhood, and Deutsch (1963a, 1964b) points out that one of the most important factors affecting the development of language is the child's environment. He points out differences in the middle-class and lower-social-class child's environments which effect his language development. Bernstein (1961) feels the main difference is in the use of the language.

In addition, language has an influence on the gap between the middle-class and lower-social-class adult. Deutsch et al. (1964) pointed out that the difference in language between the lower-social-class and middle-class child increases between the first and fifth grades and perhaps this difference continues to widen and as it does other differences between the lower and middle-social-class adults become more marked.

Currently many differences among lower and middle-social-class children are being researched and studied. This investigation will attempt to study lower-socioeconomic-class children and middle-socioeconomic-class children to determine those patterns of linguistic labeling that may be a product of the social class environment of the children. It will include how these two classes of children differ in labeling responses, and will also attempt to determine if there is a difference among children within the two classes in labeling concrete objects or actions and pictures of the same objects or actions.

Statement of the Problem

The study is a descriptive investigation of the differences in language labeling of Head Start or lower-socioeconomic-class children and nursery school or middle-socioeconomic-class children. It will also describe the differences among children within the two classes in their ability to label concrete objects and actions compared to pictures of the same things.

Objectives

The objectives of the investigation will include:

To compare responses between the two different classes in terms of verbal labeling.

To compare responses among children within two different classes in terms of labeling of real objects compared to labeling pictures of the same objects.

Hypotheses

The following hypotheses will be studied:

There will be no difference between responses in the labeling patterns of lower-social-class children as compared to labeling patterns of middle-social-class children.

There will be no difference among children within each social class in the labeling of real things or actions compared to pictures of the same things or actions.

REVIEW OF LITERATURE

This review of literature was formulated to include: the development of language in the preschool child, and sources of variation or factors which may influence the development of language in the child and particular emphasis was given to social class influences.

Investigation of the literature shows extensive research on the development of language and factors influencing it. It is hoped by the author that a representative review has been made.

The Development of Language

According to Carroll (1960, p. 744), "language is a structural system relating vocal sounds and sequences of sounds which is used in interpersonal communication and which rather exhaustively catalogs the things, events, and processes of human experiences." Language is the instrument of thought, personal expression, and social communication. The child's power to grasp, to enter into, and to reflect upon the experiences he has is dependent to a large degree upon his facility in the use of verbal symbols. As his experience is broadened and deepened, language acquires meaning for him, and further growth and learning become possible to him. Also, it is through language power that he is able to express his own thoughts and emotions, to share vicariously in those of others.

Deutsch (1964b, p. 259) has emphasized the importance of language in "concept formation, problem solving, and in the relating to and interpretation of the environment." He said (1964b, p. 258), "Language is

a central factor in school performance, both in the major interpersonal mediational function in problem solving." Thus, a certain level of attainment in linguistic skills is almost an essential prerequisite for the child's formal education. If this level is not acquired during the preschool years the child is seriously handicapped both socially and academically (McCarthy, 1954).

Much of the current research in language is being guided by modern structural linguistics. Ervin and Miller (1963, p. 108) feel one of their main contributions has been their conception of what a language is: "A language is a system that can be described internally in terms of two primary parts or levels--the phonological (sound system) and grammatical (syntax)." Thus a description of a language would include an account of all possible phonological sequences and also a set of rules by which one could predict all the possible sentences in that language. They also point out that children's language can be studied from two points of view--first, a child's own sound system and the set of rules he uses to form sentences, and second, progress in mastery of the linguistic system of the model adult language. At this point, much of the research is confined to individual case studies, since a child's pattern of language acquisition is uniquely his. Enough evidence has been gathered from the study of individual children to make generalizations about the sequence of various sounds acquired and the system of contrasting elements of sounds.

The prelinguistic stage is that stage of speech development preceding the first word. The child in the prelinguistic stage will first develop control over volume, pitch and articulation. It is

near the sixth month that the child enters the stage of random vocalization, or babbling. Here he first uses the variety of vowels and consonants that will lead to the development of language. There are several prespeech forms which Hurlock (1964, p. 210) describes as "crying, babbling, and gestures." She believes babbling to be the most important because it is the very basis for speech. Lewis (1951) feels that babbling is a form of play and believes that the sounds are uttered for the mere delight of uttering them.

Most writers agree that the earliest vocalizations are largely reflex and that at first they are devoid of meaning; the sounds uttered have little relevance for later learning (McCarthy, 1954). However Rheingold, Geowitz, and Ross (1959) demonstrated the responsiveness of vocalization to conditioning in the three-month-old infant. Irwin (1941) has also pointed out that the first utterances of the child are vowels of some sort. Voicing of consonants increases with age (McCarthy, 1954).

After the first acquisition of sounds there is a rapid increase in the variety of sounds. Latif (1934) states that out of this varied repertoire of sounds, those that are used by the adults are reinforced and become habitual and others cease to be uttered. Carmichael (1966) believes that there are developmental stages of vocalization and each stage marks a step in the progress from the mere emission of sound to true, meaningful, human speech.

Jensen (1967) believes that language acquisition depends entirely upon interaction with another person, and the emotional quality and intensity of this interpersonal relationship plays a crucial role in the process. Speech, he believes, cannot develop without this

spontaneous vocal interplay between child and adult, or between one child and another who is sufficiently mature in his speech patterns. Others (Tufts University, 1961) believe that both biological endowment and environmental stimulation are involved in language development; these researchers believe that no child has the biological structures required for speech before approximately one year of age. According to Church (1961, p. 80) the "order in which the sounds mature and appear in the baby's vocalizations is the same regardless of linguistic or racial background." However, to turn these sounds into language requires both an example and probably a warm emotional tie to the adult users of the language being learned.

Most writers agree that an adult needs to provide the child with standards for imitation or to shape the child's vocal behavior through differential reinforcement. Most investigators (McCarthy, 1954; Dewey, 1935) agree that verbal imitation begins between the ninth and eleventh month and is especially prominent at the end of the first year. Dewey (1935) also points out that the child particularly imitates the rhythm of the language of his country. Strickland (1963) states that the child not only imitates the sounds but also the patterns of pitch and stress and will learn to be aware of differences in word order and intonation as well.

Imitation of a model is one of the most important aspects in how a child learns to pronounce words. When the child is producing sounds, the adults in the environment usually say a real word which the child's sounds appear to approximate. This gives auditory reinforcement to these sounds. He practices, and his correct speech forms are reinforced through corrective feedback (McCarthy, 1954). Brown and

Fraser (1964), p. 79) found by making a rather thorough study of one child's speech that children's speech can be rather well characterized as "systematic reduction of adult speech largely accomplished by omitting function words that carry little information." In their study, Irvin and Miller (1964) conclude that children's language undergoes a constant process of change through imitation of adult models, but there are some utterances which cannot be described in this way. They also point out that in the early phase of language development the child usually selects the last few content words in the adult sentence to imitate. Dewey (1935) quoted Gregoire who believes that the child's language evolves by imitation of the sounds heard and elimination of those sounds not heard. McCarthy (1954, p. 517) states that the "mere fact that the child learns the language of his environment is evidence of the importance of imitation." Lewis summarizes three explanations of imitation as follows:

First, that there is innate tendency for the child to respond to speech by speech; secondly, that the child responds by expression to expression; and thirdly, that vocal responses to speech arise from intervention of the adult into the child's activity of babbling. (Lewis, 1951, p. 76)

Perhaps the lower-social-class child's problems with language begin during this stage of language development when imitation of a model is so important. Hunt (1964) believes that the linguistic pattern available for imitation in the model provided for lower-social-class children is both limited and wrong by the standards of the schools they will attend. Also, according to Jensen (1967), the child's vocalizations, which normally occur in the first year of life and are the forerunners of speech, must be reinforced or rewarded by certain kinds of responses from other persons if they are to persist and develop into

speech. The more reinforcement, the better, and apparently the fewer the number of persons from whom the reinforcement comes, the better. In the typical lower-social-class home there is reportedly less verbal play, less verbal interaction, and less reinforcing behavior on the part of the older members of the household in response to the child's early vocalizations than is generally found in middle-class homes. The beginning of speech is therefore more apt to be delayed. Jensen (1967) also points out that the child's difficulties are increased if his vocal models must be perceived through a high noise background. The congested living condition in many lower-social-class homes can be presumed to have a higher noise level plus a greater proportion of adult speech which does not constitute vocal interaction with the child (Deutsch, 1964a; Hunt, 1964).

It is generally agreed that a child can hear a phonetic contrast before he can use or produce it (Ervin and Miller, 1964). Church (1961, p. 58) states that "passive understanding long precedes active speech." The child does not at first understand what words mean, but what the person using them means; he does not learn that such-and-such an object is called such-and-such, but rather that this thing is doll or bed or whatever.

By the time the child is a year old he is able to vocalize almost all conceivable sounds, including some not in the adult language (Ervin and Miller, 1963). The next stage is the transition into meaningful words or true language. Hurlock (1964, p. 218) points out that at this stage speech is established by the maturation of parts of the speech mechanism and the brain. She also says that between the ages of 12 and 18 months in most children there is a period of "speech readiness."

Not only must there be motor readiness but also mental readiness because association of the meaning of the words is dependent on memory and reasoning.

It is not always easy to tell when the child begins to speak. He may produce a word-like sound in what seems an appropriate circumstance but fail to repeat it, either spontaneously or on demand. Many parents tend to underestimate the age at which the first word is uttered but as Ervin-Tripp (1966, p. 60) has said, this may be a result of "lenience in the criterion of consistency which leads to underestimation" but also the "child's primitive phonology and his global meanings may lead to adult oversight." Although there is great disagreement in the figures reported by different investigators for the age when verbal speech or the first word is first spoken; in general they agree that the size of a child's vocabulary increases with small increments being added at the start, then increments of increasing size, which appear to reach their maximum between 24 and 36 months, and finally a gradual slowing down, as the great majority of useful words for everyday communication is learned. Children soon, although the boundaries may be blurred, emerge with behavior that is clearly verbal.

Although some children blend real words in a stream of jargon, the jargon quickly disappears and the child settles down to speaking in one-word utterances. This means that a sentence or a phrase is combined into a unit; for example, "all gone" becomes "awgone" and is understood as one unit (Tufts University, 1961, p. 15). Speaking continues with the combination of words into utterances, first two at a time, then three, and so forth to the point where one can no longer keep track.

McCarthy (1954) has summarized the work of Irwin (1946-1948) who found in his studies of the development of speech sounds that the frequency of vowel sounds is greater than the frequency of consonant sounds during the first 30 months, but after the child begins to form words, the number of consonant sounds exceed the number of vowel sounds.

According to Ervin-Tripp (1966) and Ervin and Miller (1963) language consists of contrasts which signal differences in meaning in otherwise identical words. These sound contrasts are used by the child to distinguish meaningful words. There is a semantic contrast for the child whenever two different meanings are related to two different sound sequences. A child learns the phonemic system of his language. Phonemes are "contrasts accounting for the significant formal contrasts between words" (Ervin-Tripp, 1966, p. 66) or "the minimal sound units which occur in a particular language and make differences in meaning" (Carroll, 1960, p. 744). Each dialect has rules for variation in the sounds which represent each phoneme according to the phonemic environment (Ervin-Tripp, 1966).

According to Ervin and Miller (1963, p. 112), Jakobson has developed a hypothesis of language development, and that is that "the sound system can be described in terms of successive contrasts between features that are maximally different and which permeate the whole system." For example, the vowel-consonant contrast is one of the earliest contrasts for children. This theory presents an economical process of learning since the number of contrasting features is much smaller than the number of phonemes. There is also theory as to contrasts with regard to different positions within words. For example, children usually acquire initial consonants before final or medial consonants. Templin (1957) also

supports these positional generalizations. Velten (1943, p. 282) has said, "A child does not acquire a phoneme system by random selection or by taking it over ready-made from the language of the adults, but by proceeding step by step, from the greatest possible phonemic distinction to smaller and smaller differentiations."

Besides describing the system of contrasts one needs to describe the system of substitution whereby the child substitutes a particular phoneme for perhaps two or more adult phonemes. This is necessary because the child has a smaller number of phonemes than the adult (Ervin and Miller, 1963). Some investigators such as Velten (1943) report that children select stressed syllables in making substitutions, and they employ different substitution rules for stressed and unstressed syllables.

Jenkins and Palermo (1964) present an interesting theory in the acquisition of language. They suggest that as the child develops a core of labels he attaches words with other words in sequences, and ordering and structuring begin. Then as structure develops, some words form classes in the sense that they take a particular position in an utterance which is different from the position which other words may take. Then these classes of words become substitutable for each other in particular structural frames. New utterances, therefore, may occur without prior training by the substitution of previously acquired equivalences.

Miller and Ervin (1964) also point out that the child's language system is constantly undergoing change and is unstable. His patterns are not set and he frequently lapses back to his old patterns.

Before the second birthday most children are forming sentences of two or more words, and although the grammar of these sentences is not identical with the adult model, one can usually make a translation of the child's sentence into adult sentence by the addition of function words and inflectional affixes (Miller and Ervin, 1964).

In regards to the words used in early utterances, although there is no syntax, investigators (McCarthy, 1954; and Konishi, 1960) have found that nouns, verbs, and interjections are the most common classes of words used by children. These may either reflect vocal stress, frequency in adult speech or semantic importance.

Semantic Development

The meanings of children's early utterances are global or generalized. Thus, one sound could be the name for several different objects or persons to him (Hurlock, 1964; Ervin-Tripp, 1966). Hurlock also believes that meanings are first learned in connection with tangible things such as objects or persons. Ervin-Tripp (1966, p. 61) on the other hand has observed that "much semantic learning comes from overheard adult speech, and that verbal contexts, not just visible referents, are a source of learning about the meaning of words." Werner and Kaplan (1950) conducted an experiment with nonsense words to illustrate how words acquire meaning through usage in various contexts. Behrens (1939) stresses conditioning as the essential element in the acquisition of meaning and brings out the importance of providing the child with a rich variety of experiences in order to increase his knowledge of meanings. Vigotsky (1939) emphasized the importance of meaning when he pointed out that a word deprived of meaning is not a word but

an empty sound. He also stressed that meaning of words is not static but develops.

Ervin-Tripp (1966, p. 61) said that "adult beliefs about the semantic contrasts needed by children may influence the words they use in talking with children." This is perhaps the reason most children learn abstract words first, i.e. dog before collie.

According to Carroll (1960, p. 747), the meanings of a word for a particular individual depend on his experiences with it. He goes on to say that "the mere acquisition of a word is often only the first step in a long series of trials and explorations which the child must make with it." Thus, it is out of the materials of experience that the child evolves meaning and concepts, attaching to them verbal symbols. Therefore, if a child has limited experiences with people, things, and objects in his environment, we may then infer that he may also have a limited language.

Other investigators (Feifel and Lorge, 1950; Velten, 1943; and Werner and Kaplan, 1950) have studied the dynamics by which multiple meanings are acquired and by which the child's concept of a word may change. Ervin-Tripp (1966) points out that in semantic development or development of meaning, the sound of words rather than their meaning is salient to the preschool child. Also the referential range of early words may be quite broad. For example, a "dog" may refer to all animals. As his vocabulary and experiences increase, he is able to narrow the range and organize, classify, and categorize words and their meanings (John, 1963). As Mc Carthy (1960, p. 9) puts it, the child not only discovers that everything has a name, but he also discovers that "this is the name for that." Also as he grows older he is able to

stress the abstract, or the class features of certain words; thus, he learns to associate certain class names with certain objects (Feifel and Lorge, 1950). Gradually then the child does learn to generalize and to apply general meanings to general categories and specific words to specific objects or situations.

Piaget has a theory in the development of this semantic system and like his theory of intelligence he believes that each step in the growth process makes the next step possible. Somquist and Kamii (1967, p. 233) apply some of Piaget's concepts and they point out that Piaget has designated three levels of symbolization--"index, symbol, and sign." They further point out that the "index" and "symbol" levels are preverbal and must be developed so that eventually the "sign" (word) will evoke meaningful mental images. At the "index" level the child is able to construct in his mind whole objects even when he perceives only a part. At the "symbol" level there are five types of non-verbal representations by which the child is able to produce or construct mental images. These are "imitation, make-believe, onomatopoeia, pictures, clay models, and drawings." (Somquist and Kamii, 1967, p. 235) Finally, representation at the "sign" level indicates that the child is able to construct a mental image simply by hearing a word. It is important to note that Piaget feels the preverbal levels where the child is allowed to hold the object, pretend with it, or see pictures of it are important before the "sign" level is possible.

Changes in the semantic system have been studied in little detail. The changes may be as a result of:

...increases in the specificity of terms, increases in knowledge or in concept range, shifts from sensori-motor to relational bases for concepts, and shifts in the verbal structure so that antonyms, synonyms, and other structural relations in the vocabulary reflect the critical constructs employed in the language. (Ervin-Tripp, 1966, p. 63)

Growth of Vocabulary

In regards to growth of vocabulary, McCarthy (1954) states that at first it appears to increase rather slowly and then quite rapidly throughout the preschool period and then slowly again until mental maturity. Vocabulary increase continues for most people throughout life. Obviously, as the vocabulary increases, there are conceptual changes made, too (Ervin-Tripp, 1966). It is difficult to estimate the total vocabulary of children because of methodological difficulties and also because most words are seldom used, and also policy with regard to homonyms and inflections must be settled (McCarthy, 1954; Templin, 1957; Ervin-Tripp, 1966). Carroll has pointed out that vocabularies are larger than they are generally thought to be. Studies also show that there are wide social and individual variations in vocabulary (McCarthy, 1954; Ervin and Miller, 1963).

Velten (1943) studied his daughter's speech in order to study the size of the vocabulary and reported that at 22 months, she actually used 86 per cent of the words possible considering her word pattern and her available stock of phonemes. We do not know exactly how change occurs but the correlation of increasing vocabulary and increasing complexity of the system is obvious.

Sentence Structure and Grammatical Form

Children as they first begin to use words at about age 12 months display no evidence of systematic grammar yet by about four years most observers agree the fundamentals are mastered. Carroll (1960, p. 748) says that "by age six there is relatively little in the grammar or syntax of the language that the average child needs to learn, except to achieve a school-imposed standard of speech or writing to which he may not be accustomed."

Syntax is "the set of rules for creating or understanding sentence and clause" (Ervin-Tripp, 1966, p. 73). Deutsch (1964b) points out that one of the major areas of deficit in the lower-class child's language development is syntactical organization. He points out that training in the use of word sequence to relate and unify cognition is very important.

Emphasis has been placed on sentence structure and grammar form and Symonds and Daringer state:

Sentence structure in a language is a key to the logic and structure of thinking, inasmuch as the sentence is the smallest complete unit of thought. Growth in the power to form complete, concise, balanced, consistent sentences is an index of the growth in clear and accurate thinking. (1930, p. 50)

According to Wann, Dorn, and Liddle

Grammar, or structure, is of great importance in communication. Symbols need to be put together in a special order to make words that are commonly understandable and the words have to be in a special order to make a sentence and convey meaning. (1962, p. 113)

As we make an effort to understand how the child learns the grammatical structure of the language we must first understand the nature of grammar. All grammar is characterized by two classes. The first is

the "lexical classes" and in English includes nouns, verbs, adjectives and a few adverbs. The other is the "function classes" and in English includes conjunctions, prepositions, auxiliaries, and suffixes (Ervin and Miller, 1963, p. 120). Grammar arises out of coding words into classes. (Ervin-Tripp (1966, p. 74) refers to these classes as "content classes" and "marker classes" respectively.)

Markers (function words such as and, at, his, and suffixes such as -ed, -s, -'s) and order are used to identify class, specify relations, and signal meanings. Brown (1958) also states that semantic features may be important in the evaluation of grammatical classes. For example, nouns often refer to things and verbs to actions (Ervin and Miller, 1963). Also used in understanding grammar are characteristic intonation and stress patterns (Ervin and Miller, 1963).

Several investigators (Braine, 1963; Ervin and Miller, 1963) emphasize the positional features of words and have found that children attend more to position while adults attend more to markers.

Morphemes are the basic units of grammar and are the smallest recombining, meaningful elements like "big," "-er," "-est," (Ervin-Tripp, 1966, p. 73). Morphology is concerned with the organization of the morphemes into higher order units (Ervin-Tripp, 1966) or as Carroll (1960, p. 746) has put it, "morphology deals with the forms and grammatical inflections of words as they undergo modification for tense, number, case, person and so forth." How does the child learn these forms? Carroll (1960) points out that there is abundant evidence that the child first learns these forms by imitating the forms as they are heard from other more mature speakers around him. Starting in about the third year the child will begin experimenting with

forms of words and for a few years may have difficulty in learning irregular forms. Templin (1957) found that grammatical errors decrease from age three to age eight, and Noel (1953) found children's language structure is closely related to their parents.

The first stage of grammar is one of "passive grammatical control" during which the child is learning the transformational rules of grammar well enough to understand adult communication but not well enough to utter anything more than one-word sentences (Ervin-Miller, 1963, p. 118). The next stage may be one of "unmarked grammatical system" in which certain regularities of grammatical sequences may occur and Ervin and Miller (1963, p. 119) point out that it is difficult to determine whether these are memorized sequences or the generation of novel sentences. However, it is around two years of age that two word sentences appear. A number of studies (Brown and Fraser, 1964; Miller and Ervin, 1964; and Braine, 1963) have found that when the earliest multiword utterances appear, the words used most often appear in a restricted position. Jenkins and Palermo (1964, p. 1963) call these "operators." They have also suggested that operators are necessary for the development of word classes. An operator occurs in a fixed position; i.e., in either first or second position, and the remainder of the vocabulary forms a single, undifferentiated class and can occur with any operator. Very soon the child will begin to form other words into classes and operators can occur with certain words.

Between the ages of 27 to 30 months a third stage, the "marked grammatical system," may appear (Ervin and Miller, 1963, p. 122). Examples of markers are the appearance of the before nouns and appearance of verbs after can and before -ing. Finally, by the age of four,

the child has acquired knowledge of the basic structure of his language and his grammatical system appears to be a simplified model of the adult's. Then follows a period of consolidation and overlearning which finally results in skilled adult speech (Ervin and Miller, 1963). It is important that children have feedback and also have the opportunity for trial and error.

Carroll (1960, p. 746) states that "the child learns syntax by first imitating whole sentences or phrases and then differentiating the component parts as the function of these parts is learned." Brown and Bellugi (1964) have made a longitudinal study of a boy and girl whom they call Adam and Eve in order to study the processes in the child's acquisition of syntax. They have studied the sentence-constructing process in children between 18 and 36 months and began work with Adam when he was 27 months old and with Eve when she was 18 months old. The first process noted was that the child's imitation preserved the word order of the model sentence, suggesting that "the model sentence is processed by the child as a total sentence, rather than a list of words" (Brown and Bellugi, 1964, p. 136), and that he reduces the model sentence by omitting the functionors. They also noted that "when the models increase in length, there is not a corresponding increase in the imitation" (Brown and Bellugi, 1964, p. 137). The imitations stay in the range of two to four morphemes, which is the range characteristic of children at this time. The children were operating under some constraint of length or span, but the constraint was a limitation on the length of utterance the children were able to program or plan, not a limitation of vocabulary.

Brown and Bellugi (1964) also found that it was possible to make a general characterization of the forms likely to be retained and the forms likely to be omitted. Forms likely to be retained were nouns and verbs and less often, adjectives while forms likely to be omitted were inflection, auxiliary verbs, articles, prepositions, and conjunctions. They also feel sure that differential stress is one of the determinants of the child's abbreviated versions of adult sentences. They go on to say that "whatever the causes, the first utterances produced as imitation of adult sentences are highly systematic reductions of their models" (Brown and Bellugi, 1964, p. 140).

Another process Brown and Bellugi (1964) found in the acquisition of grammar was that of expansion. Adults not only imitate the children's language but they often expand what he has said; expansion is a kind of communication check: it says in effect, "Is this what you mean?" (Brown and Bellugi (1964, p. 144) go on to state that "the processes of imitation and expansion are not sufficient to account for the degree of linguistic competence that children regularly acquire." These processes alone teach no more than the sum total of sentences that speakers of English have either modeled for a child to imitate or built up from a child's reductions. The child's linguistic competence extends beyond this; all children are able to understand and construct sentences they have never heard but which are nevertheless well formed, i.e., well formed in terms of general rules that are implicit in the sentences the child has heard. Somehow, then, every child processes the speech to which he is exposed so as to induce from it a "latent structure." This "latent rule structure is general and is both semantic and syntactic. The discovery of latent structure is the greatest

of the processes involved in language acquisition and the most difficult to understand." (Brown and Bellugi, 1964, p. 144).

Chomsky (1965) has also studied syntax development in children and his basic assumption is that language is a system of rules which can be variously arranged to form and understand new sentences. Knowledge of a language is based on intuitive mastery of rules. This theory is in keeping with the third process described by Brown and Bellugi (1964). It is true that children make inductive generalizations which go beyond what they hear. No theory based entirely on imitation and practice can account for all the features of the child's language. Perhaps the basis of this important achievement, language development, is still unknown.

Berko (1958, p. 160) developed a technique whereby she asked children to make a new formation using nonsense words. For example, the child was told: "This is a wug. Now there are two of them. There are two ____." She found that four-year-old children knew the rules for forming the plural and possessive for nouns and the past tense and third person regular for verbs. Miller and Ervin (1964) used this method with younger children and found that the plural was usually learned before the child was three years old, but there were still individual differences.

The mastery of familiar forms precedes their generalizations. However, gradually the child uses the generalizations he does make and applies them to nonsense forms and irregular forms, showing he has a productive pattern. Generalizations are very persistent, in spite of adult models or reinforcement (Miller and Ervin, 1964).

In sentences of more than two words, the same set of rules apply that apply for the two word sentences because certain words are nested so that it is necessary still to deal with only two units. For example, "that rabbit" and "that Christy rabbit" may appear with the phrase replacing the single word (Ervin-Tripp, 1966, p. 75).

Bereiter et al. (1966, p. 105) in their "Academically oriented Pre-school for Culturally Deprived Children" have made serious efforts to improve the children's language abilities in their program. In so doing they have emphasized the acquisition of grammatical patterns.

Another interesting finding relating to the acquisition of grammar has been studied by Brown and Berko (1960) who have found that the response words provided by adults in a word association test usually belong to the same parts-of-speech as the respective stimulus words. There are fewer of these homogeneous-by-part-of-speech responses with young children; the tendency to associate words with a part-of-speech increases with age. These investigators suggest that this change in word associations is a consequence of the child's gradual organization of his vocabulary into the syntactic classes called parts-of-speech.

LaCivita, Kean, and Yamamoto (1966) found that regardless of socioeconomic level, children become increasingly more skillful in utilizing cues in identification of word meaning through parts-of-speech.

In a doctoral study by Menyuk (1961), she found that maturation appears to be the most important variable associated with increased usage of syntactic structures, neither IQ nor sex being significant in her sample. She reported a trend from omission in both phrase structure and morphology (he wash) to redundancy (he washted, the childrens), with

decreasing fluctuation as maturation advances until usage of the unique structures was eliminated.

Language and Cognition

There has been increasing interest in the past decades in the effect of language on nonverbal behavior. Verbal mediation is the framework most investigators have concerned themselves with in this area. This framework is concerned with the fact that verbal responses permit chaining, bringing to bear prior reactions learned to the verbal responses themselves. Verbal mediation is internal verbal responses or covert language which help to direct motor behavior. There have been several studies of learning in which chaining of responses through a verbal mediator has been manipulated (Bailer, 1961). The more distinct the labels, the more quickly they were learned, and the more easily the motor response was learned.

Jensen (1963, p. 135) defines verbal mediation as "verbal behavior which facilitates further learning, which controls behavior, and which permits the development of conceptual thinking." Pyles (1932) showed that verbalization aided learning in a concept-formation experiment. Wann, Dorn, and Liddle (1962) point out that language and thought are related but not identical. Other current evidence available suggests children who have overt verbal skills, also rely on covert language--or verbal mediational processes--when approaching complex problems (John and Goldstein, 1964). Another researcher, Ausubel (1964), has concluded that a delay in the acquisition of certain language forms results in difficulty in the transition from concrete to abstract modes of thought.

Stern's study (1965) supports the value of verbal labels in problem solving.

Ervin-Tripp (1966) point out that age changes effect both verbal skills and other cognitive schema. Verbalization, however, can interfere with performance by distracting, by supplying an additional task, or by drawing unnecessary attention. "Language," states Ervin-Tripp (1966, p. 85), "seems to be of greatest value in aiding the coding and storage of information but has less effect on sensory perception, new concept attainment, and basic cognitive operations."

Functions of Language

The study of functions of language derives from the question of why the child talks, what motivates him to use language, what needs he satisfies in using language, and what functions language fulfills in his life.

In Piaget's book, The Language and Thought of the Child (1926), he was chiefly concerned with the child's language as a means of revealing his thought processes. He suggested two types of speech in the child's language: first egocentric speech and, second, socialized speech. He was first to emphasize the importance of egocentric speech and in this type of speech Piaget said:

The child does not bother to know to whom he is speaking nor whether he is being listened to. He talks either for himself or for the pleasure of associating anyone who happens to be there with the activity of the moment...He does not attempt to place himself at the point of view of the hearer. (Piaget, 1926, p. 9)

Socialized speech, on the other hand, is speech "in which the child addresses his hearer, considers his point of view, tries to influence him or actually exchange ideas with him" (Piaget, 1926, p. 10).

Controversy was provoked by Piaget's declaration that the young child's speech tends to be "egocentric" and the "socialized" speech attains importance only at a later stage of development. He used content analysis in studying the remarks of two children aged six and one half and found 38 percent of their remarks to be egocentric. However, other investigators have not been able to duplicate this finding. Interest in this during the past several years has waned since most of the controversy centered on definition or age specifications, and also the assumption that analysis of the verbal response alone--without reference to the situational context in which responses were made--could be made the basis of an inference concerning the intention of the child. Also individual differences of children were not accounted for.

Piaget's concepts in regards to egocentric speech have been especially challenged by Vigotsky (1939) who considers that egocentric speech is midway between socialized speech and inner speech. He considers it the key to inner speech or verbal thought, for it is still subject to observation because it is uttered aloud.

Lewis (1951) has stressed the role of language in play and self stimulation. Babbling is a form of play and after the child has acquired some mastery of true language he continues to talk to himself partly for pleasure (Fraiberg, 1959).

Another investigator (Carroll, 1953) states that in the early phases of language it is closely related to the satisfaction of the child's immediate physiological needs and states:

But as he matures this relation may become increasingly indirect, in pace with his growing curiosity about the nature of his complex environment and its meaning

for him, and also in pace with the widening of his circle of relationships with other people. (Carroll, 1953, p. 749)

Toward the end of his second year the child usually starts an intense use of language to explore his relations with people and things. He learns to ask questions and seek help from others in learning the names of things, learning categories, and learning the freedoms which sanction his relations with others.

Fraiberg (1959, p. 115) has another interesting idea concerning a function of language; "words substitute for human acts and the uniquely human achievements of control of bodily urges, delay, postponement and even renunciation of gratification are very largely due to the higher mental processes that are made possible by language."

Stern (1966, p. 45) suggests that language "is a tool in the development of cognitive process, problem solving and logical operations." She sees early language training as the most significant feature in the child's early learning.

Deutsch has also made some significant comments concerning language as a function in cognition:

Language is probably the most important area for the later development of conceptual systems. If a child is to develop the capabilities for organizing and categorizing concepts, the availability of a wide range of appropriate vocabulary, of appropriate context relationships becomes essential. (Deutsch, 1963b, p. 196)

In Deutsch's enrichment program the teachers make conscious use of labeling, comparing, contrasting, informal testing to find out what the child is getting through questions and observations.

Some researchers (Ervin and Miller, 1963) have pointed out that the level of play involving planning which can be sustained by deaf children before they receive special training, suggests that alternative

representational processes are available. Jeffery (1953) suggested the possibility of nonverbal mediators. Perhaps the deaf child relies heavily on perceptual dimensions.

Sources of Variation

All the available evidence supports the general notion that the quality of the child's early language environment is the most important external factor affecting the rate of language development (McCarthy, 1954). Hunt (1961) summarizes some of Piaget's work by pointing out that the rate that a child develops is in part, but not wholly, a function of his environment and also that spoken language or the motor side of language exists only after images have been developed out of experience with the objects and events which the images represent. Others (Bloom, 1964; Deutsch, 1963b) have also pointed to the importance of early environmental stimulation and variety in the environment.

Social class factors and socio-economic status have been found to affect the language development of the child and have been a prime source of research in the past few decades. Some findings (Brodbeck and Irwin, 1946) illustrate the effects of social environment on vocalization in children as young as six months.

Comparing by parental occupational status, Irwin (1948) found significant differences in the mastery of speech sounds after age one and one half, favoring children from higher occupational groups. Deutsch and Brown (1964) also found a relationship between range of oral vocabulary and social class level. Bernstein (1960) reported the higher intellectual development of middle-class children to be a cultural function or linguistic advantage and not a matter of genetic superiority. Deutsch

(1964b, p. 259) stated that language differences which appear in lower-social-class children are "by-products of social experience rather than indices of basic ability or intellectual level."

The studies of McCarthy (1930) and Day (1932) concur in indicating that group differences favor children from the upper socioeconomic levels on practically all aspects of language development. Templin (1957) found higher scores on many aspects of language for the upper socioeconomic group in her study. She found quantitative differences; for example, the upper socioeconomic group had longer sentences, more varied vocabulary, more complex grammatical structures. Her sample consisted of 480 children between three and eight years.

Loban (1964) found higher status children used more complex grammatical structures, and another investigator (McCarthy, 1930) found highstatus families and children used longer sentences. Deutsch (1964b) found that children from low-status families had more expressive language ability than generally emerged in the classroom.

One of the main social class differences appearing in the research with regard to language development is the amount and type of verbal stimulation given the child. Hebb (1947) and other developmental theorists have stressed the importance of a variety in stimulation. Deutsch (1963a and b) has stressed that a slum life provides a minimum range of stimulation. The slum child's environment has few pictures, and objects of all types are few in number and lacking in form and color variations. The lower-class child's home lacks manipulative objects that help him learn words for shape, size, and color. Deutsch believes that the restriction in the range of the variety of

input limits the expressive output. Early stimulus deprivation may then create a handicap which the child will carry his whole life--a handicap in language and in assimilating and manipulating facts and ideas.

That the absence of verbally oriented interaction between a significant adult and a very young child can have lasting and detrimental effect on his language has been documented by research done on infants cared for in hospitals or orphanages (Brodbeck and Irwin, 1946; Dawe, 1942; Goldfarb, 1943, 1945). Pringle and Bossio (1948) have emphasized the importance of a continuing relationship with a member of the family or family substitute in the development of language in orphans. Carroll (1960, p. 749) has said that "the most important external factor affecting the rate of verbal development is the quality of the child's early linguistic environment." Jensen (1967, p. 104) went so far as to say that "language acquisition depends entirely upon interaction with another person." Gray et al. states that:

Evidence seems to suggest that it is not so much by simply listening to the speech of others that the child acquires verbal skills, as it is by his attempts to respond to their verbal productions and his being rewarded for these efforts. (Gray et al. (1966, p. 28)

McCarthy (1954) emphasized the relationship between verbal skill and parental availability, particularly the amount and kind of contact the child experiences with his mother. The number of adults present in the child's environment has also been found to affect his language (Anastasi and De Jesus, 1953). It has been suggested by Deutsch (1963a) that the lower-social-class child does not get feedback from adults correcting his enumerations pronunciations, and grammar. John and

Goldstein (1964) also support this idea that the lower-social-class child has insufficient corrective feedback.

C. Deutsch (1964) found in her study that there are significant class differences in the time spent in parent-child communication. In John and Goldstein's (1964) study their main theme was that children develop language proficiency chiefly through verbal interaction with more verbally mature speakers, and they point out that children from low-income homes have little opportunity to engage in active dialogue and this is supported by Milner's (1951) study too. Wann, Dorn, and Liddle (1962) also point out the importance of adults who talk with the child, respect the child's efforts to express himself, and who question and reason with him. According to Deutsch (1963b, p. 196) "an element lacking in the environment of children from slum areas is the failure of adequate and continuous, sustained, connected, and relevant verbal communication." Thus, the lower-social-class child must rely on receptive exposure or what he hears for his learning. Hahn (1948) found that in conversations, children's sentences were longer with adults than with children. Milner (1951) has described the paucity of verbal interaction of children with adults and in family conversation in the lower-income as contrasted with the high-income Negro home.

Even after the child is talking, the question-asking behavior which is so characteristic of young children, and which later becomes important for independent problem solving, will eventually be extinguished through lack of adequate reinforcement and feedback if the parents are too distracted to respond to the child's questions (Jensen, 1967).

Between two and three years of age the child constantly points to objects, hears their verbal labels from parents, and tries to imitate

these sounds in his own vocal utterances. He begins to learn that certain discreet sounds or words are associated with specific objects and acts. It is during this period of labeling that some important social class differences exert their effects on verbal learning. Lower-social-class parents, it has been observed, engage in very little of this naming or labeling play with their children. The lower-social-class child has little experience to prepare him or has little opportunity to learn how to associate single spoken words with objects, pictures of objects or with printed words. Also these associations are made more difficult for the lower-social-class child by the fact that many of these tasks require that the spoken words be identified out of the context of continuous speech. Many of these labels need to be gained in the parent-child interaction, as for example, when the parent looks at a picture book with the child, points to each picture while saying its name, and reinforces the child's behavior with some show of approval when he utters similar sounds. Deutsch (1965, p. 78) elicits the need for teaching children to label by referring to things by name; we need to do this in order to get across the idea that "everything has a name, a name to be seen, and a name to be used." Bereiter et al. (1966) also point out that the lower-class child has a minute repertoire of labels to attach to the objects he sees. John (1963) states that the lower-social-class child lacks opportunity to hear simple labels.

Language evolves through the correct labeling of the environment, and through the use of appropriate words for relating and combining and recombining of the concrete and abstract components in describing, interpreting, and communicating perception, experiences and ideational matter. (Deutsch, 1963a, p. 173)

Also, as labeling becomes more complex and related to a variety of experiences and stimuli the lower-class child has more difficulty with language (Deutsch, 1965). As Hunt (1961, p. 272) pointed out there appears to be an inappropriate "match" between the child's intrinsic development and external requirements.

Adults in the environment are also important as models for language and if one turns to the importance of imitation in language development this can be easily justified. The language models to which impoverished children are exposed are often not only meager, restricted and incorrect grammatically, but also punitive according to Gray et al. (1966) and Bernstein (1961).

Adults may also effect the child's language development by reading to their children (Irwin, 1960), and Milner (1951) not only found fewer books in the lower-social-class home but lower-social-class children were read to less frequently.

The investigator has previously pointed out the correlation between language and thought. Hess and Shipman (1965) found that the child's ability to handle abstractions was related to maternal language style.

Jensen (1963) and John (1963), working independently, both concluded that the lower-social-class child's use of language as a cognitive tool is deficient and that the acquisition of more abstract language forms seems to be hampered by lower-social-class living conditions. Hunt (1961) has very clearly developed the position that intelligence is not primarily a genetically determined entity, but rather a function which develops in and through the process of interaction with the environment. Bernstein (1961) points out that the lower-social-class child's language

limits do not permit elaboration in his thinking and thereby inhibits the development of his ability to comprehend. John (1963) and John and Goldstein's (1964) work on certain patterns of linguistic and cognitive behavior in children from various social classes showed some of the limitations in the disadvantaged group's acquisition of the ability to label, discriminate, categorize and generalize.

Research by Deutsch et al. (1964) showed the close relationship between intelligence, as measured by standardized I.Q. tests, and language skills. It appears that a delay in the acquisition of certain elements of language may make the transition from concrete to abstract modes of thought more difficult (Ausbel, 1964). Researchers such as Hunt (1961) feel that the child's cognitive and language growth is further inhibited by the fact that his curiosity is not fed; he is not taught to ask questions or if he does, it is all too unlikely that he will receive answers or they may be punishing.

Deutsch and Brown (1963) and Hilliard and Troxell (1937) have noted the differences in the quality of language between classes increases with age.

An important theory of social-class variation has been developed by Bernstein (1959, 1961, 1962, 1964) who suggests a contrast between "restricted" and "elaborated" codes (Bernstein, 1964, pp. 57-58). He describes the characteristics of both in detail and in summary found that restricted codes tend to be redundant, narrative, concrete, and emphasize social relations. They are limited and condensed and also tend to be short and grammatically simple. Elaborated codes, on the other hand, are more complex, tend to be less redundant, and to have richer optimal qualification. They also tend to emphasize information

and opinion exchange and can express a wide range of thought. The elaborated language is more accurate and grammatically correct. While the lower-social-class children use only the restricted code, the middle-class use both forms. Bernstein (1960) points out that the lower-social-class conversation is limited to the immediate instant and generally does not include time sequences, relationships between concepts, logical sequences, or causal relationships. He also feels that the difference in the languages of the two classes is not in the quality but in use.

The middle-class individual develops a more flexible use of language than the lower-social-class individual as a result of his occupational and educational experiences and since there is a gap between the speaker's verbal skill and listener's potential in adult-child interaction, the ability to use language flexibly is important (John and Goldstein, 1964).

In working with lower-social-class children on language development Cohn (1959) believes that the goal of language training for these children should be seen not as that of improving the child's language, but rather of teaching him a different language. Taba (1964, p. 157) feels that there is a need to capitalize on materials and tasks using "operational and concrete, rather than verbal stimuli." She goes on to say that:

To cultivate mental activity without the hindrance of poor language development indicates the value of using audio-visual materials developed with the purpose of providing for concrete thought operations through manipulation and experimentation with objects and processes. (Taba, 1964, p. 157)

Gray et al. (1966, p. 28) suggest that "every opportunity should be taken to set the stage so that it is necessary for the child to use language to reach the goal he wants." They go on to suggest also

that the child's language should be directly reinforced for productivity in language development.

There are also other variables which effect a child's language development. Race has been studied by some to see if it has an effect on language development. Thomas (1962) found a group of 50 Negro children to be somewhat more deficient in amount, maturity and accuracy of oral expression than a group of 50 white children from the same type of environment. In Anastasi and D'Angelo's (1952) study they found a higher frequency of mature sentence types and complex sentence construction, and more detailed concepts among white children as compared with Negro children in their study.

In a study in 1964 (p. 15) Deutsch et al. indicated certain functions underlying measures for which race is associated with poor performance and they were "abstraction, verbalization, and experientially dependent enumeration." Carson and Rabin (1960) found a group of white children superior to Negro children on verbal communication when matched for age, sex, grade placement, and level of verbal comprehension.

It is interesting to note that Pasamanick and Knoblock (1955) found that awareness of the examiner's skin color caused sufficient inhibition to result in decreased verbal responsiveness and their poorer performance on language sections of I.Q. tests.

The results of a study by Semler and Iscoe (1963) suggest that young Negro children have more difficulty than young white children in learning new associations, especially when cues are reduced by using photographs or pictures rather than actual objects. Otto, (1962) found that actual objects elicit somewhat different mediators than do

pictures of the objects, and pictures elicit different responses than do the mere names of the objects.

Another factor which may effect the rate of language development is sex. The research literature as summarized by McCarthy (1954) provides confirmation of the popularly held notion that girls develop language competence faster. However, these differences are not pronounced, and Templin (1957) showed a substantial number of differences favoring boys. Winitz (1959) found differences favoring girls on length of response, number of different words uttered, and structural complexity. In the study by Thomas (1962) he found Negroes to show sex differences; boys tended to be more accurate while girls tended to speak in longer sentences. In his study, whites did not show sex differences.

McCarthy (1953) in trying to explain the trends favoring girls, and particularly the much higher incidence of language disorders in older boys, has theorized that for various reasons identification and warm exchange of affection with the mother can be more complete in the case of female infants. The results of Deutsch et al. (1964) research suggest that the appearance of sex differences in language performance is highly dependent on the age and social class level of the subject and on the specific linguistic skill measured. Apparently there is no completely satisfactory explanation of the sex difference in language development, nor do we know whether this difference is universal or characteristic of the culture alone.

Another factor in the child's language development seems to be in the number of siblings and order of children in the family. First children tend to talk sooner and better than later children in a family, perhaps because of the greater adult attention and the more mature

patterns presented, but this advantage disappears with age. Twins or triplets speak later than the average, probably because of the ease of nonverbal communication between identical agetates in the same environment (McCarthy, 1954).

The small amount of contact between parent and child with many siblings seemed to explain in part Nisbet's (1961) finding that a large family is a handicap to verbal development. McCarthy (1954) pointed out that only children are definitely superior in every phase of linguistic skill. The only child is the center of the mother's attention and there is more adult-child verbal interaction. Hockett (1950) on the other hand, has suggested that older children are the most important environmental force in shaping the younger child's speech habits.

Another factor of environment that is of concern is the effect of bilingualism. Unfortunately there are relatively few studies, and in many cases the effects of bilingualism are contaminated by other factors such as socioeconomic level. The evidence does suggest that vocabulary in both languages is considerably reduced compared to the norm; there is a tendency for bilingual children to score slightly below the norm on intelligence tests, especially of the verbal type (McCarthy, 1954).

Another factor which some feel has affect on language development in children is television. However, May (1966), after examining the research on the effects of television on the child's language development concluded that until further research is done, it is doubtful that any valid generalizations can be made.

The research on language development is extensive, but it is one of the most fascinating accomplishments of man and singles him out from

other animals. It is a tremendously complex process that functions in various ways and also serves to satisfy a variety of human needs. Language is a field which has attracted the attention of psychologists, educators, and linguists in recent years. They have studied the development of language as it relates to other aspects of growth, particularly intelligence; they have studied how language functions in a child's life and how environmental factors do affect a child's language development. Their findings support the belief that environmental factors, and more specifically, social class factors will affect the child's language development.

After considering the studies on language development, it is evident that there are gaps in our knowledge of the development of language, but language does have an impact on the growth and development of the whole child. It is important that all children are able to use language in a way that they can communicate and in a way that they can meet the demands of the school. It is also important that the child be able to have enough language use and understanding to think--to think for himself and to develop his thought processes.

METHODS AND PROCEDURES

Setting and Procedures

The data in this study came from a sample of 48 children. Twenty-four of the children were in the Head Start program in the Ogden City Schools. Of these 24 children there were six each of Negro girls, Caucasian girls, Negro boys, and Caucasian boys. These 24 children represented the lower-social-class sample. Representative of the middle-class were 24 children from the Utah State University Child Development Laboratories. In this group there were 12 Caucasian girls and 12 Caucasian boys matched as closely as possible in age to the children in the lower-social-class sample. All of the children in the study ranged in age from four years, six months to five years, five months.

The Head Start sample was drawn randomly from Head Start children in eight classrooms and four schools in the Ogden City School District. Excluded from the population from which the author drew her sample were bilingual and/or Spanish speaking children and also children in the program who were placed as "pacers" and who did not necessarily represent lower-social-class children. "Pacers" do not economically have to qualify in the program but are needed to serve as models and examples for the lower-social-class children; however, they are not, in most cases, fulfilling the purpose for which they are intended. The Head Start Program is a government poverty program which operates under the the Office of Economic Opportunity and has been functioning since 1963.

In Ogden, Utah, the public school system is directing the Head Start program, and it was agreed that the investigator would draw her sample from four schools and the eight Head Start classrooms in these schools.

In order to qualify for acceptance into the Head Start program, the child's parent's income must be below a particular level depending on the number of family members. These income levels have been established by the government and it is felt that they approximately identify the low-income or poverty children. It is therefore assumed by this author that those children in the Head Start program would be representative of the lower-social-class.

The Child Development Laboratories at Utah State University have been in operation since the 1930's. At the present time during the school year there are six nursery school groups that meet Monday through Thursday each week for approximately two and one-half hours. There are three rooms in the Family Life Building where these nursery school groups met. Each room has a morning and an afternoon group of children, and each group has 20 children, a head teacher, and four student teachers. There is a twenty-five-dollar per quarter fee for each child so it is assumed by this writer that due to this fee and the fact that it is a University controlled lab, most of the children participating in the program would be middle-class children.

No attempt was made to make a random selection of nursery school children; they were matched by sex and as closely as possible by age to the Head Start sample.

Development of the Verbal Test

Because the area of labeling was the focus of this study, a verbal labeling test was devised by the author. John and Goldstein (1964) made use of the Peabody Picture Vocabulary Test (PPVT) which consists of a series of increasingly difficult items which require the child to display his comprehension of labels. Four drawings are placed before him and he is asked to point to the correct picture referent.

The author of this study wanted to have the child verbally respond to objects, actions, and positional items and pictures of the same things. The child's ability to respond on the test developed would require verbal as well as visual experience. Four main areas were selected: foods, animals, action words, and positional words. For each of these areas there were five items of a real or concrete nature and the same five items in the form of a picture; therefore, the test consisted of 40 items. The order of picture, object, and action questions was mixed and did not fall into particular areas so that transfer of learning, for example, from concrete objects to pictures, or visa versa, could be controlled as much as possible.

Administration and Collection of Data

The data were gathered during a six week period beginning March 25, 1968 and ending May 3, 1968. The investigator first spent time in each of the classrooms getting acquainted with the children. Then each child was approached by the investigator who told him he was going to be able to "play a game." The child was usually approached during his free-play time. Three of the children in the original sample had to be replaced.

One Head Start child on several attempts would not make any verbal responses at all. One nursery school child who was absent from school for some time was replaced and also one nursery school child whose mother attended each day with her would not take the test, after several attempts, without her mother; she became very emotional each time the investigator asked her to "play the game." All the other children in the sample participated in the study.

The test equipment was set up in an enclosed room with as little visual stimuli as possible. Each child in the study was taken into the room for the nursery school or Head Start center individually and given the verbal test administered by the investigator to insure a uniform approach. During the time the child was in the room his responses and conversation with the investigator were recorded on a tape recorder.

When the child first entered the testing room the investigator reinforced the idea that this was a game and they were going to have fun. Also, before starting the test the tape recorder was shown to the child and he was asked to say his name and then the investigator played this back for him. An attempt was made to keep the atmosphere as warm and friendly as possible.

When giving the test, the exact questions in the verbal test were asked each child, but when a child pointed to an answer the investigator would say, "Can you tell me . . . ?"

Following the collection of the data the responses were recorded onto a questionnaire sheet for each child and then the responses were grouped for each question into middle-class and lower-social-class responses. The 48 responses to each question were graphed so that all possible responses could be seen and also the number of children in both classes making each particular response could be seen.

The Verbal Test

General Information

Name _____ School _____
 Birth Date _____ Teacher _____
 Age _____ Date _____
 Sex _____ Race _____

Verbal Test

| <u>Question</u> | <u>Answer</u> | <u>Response</u> |
|---|------------------------|-----------------|
| 1. What is this? | (Real) Strawberry | _____ |
| 2. What is this little boy doing? | (Picture) Whispering | _____ |
| 3. Look at the blue block and tell me where I put the orange one. | (Real) On, over | _____ |
| 4. What is this? | (Picture) Donkey | _____ |
| 5. What is this? | (Picture) Beet | _____ |
| 6. What am I doing? | (Real) Looking | _____ |
| 7. What is this? | (Real) Raccoon | _____ |
| 8. Where is the block? | (Picture) In, inside | _____ |
| 9. What is this? | (Picture) Cucumber | _____ |
| 10. Look at the green block and tell me where I put the orange one. | (Real) Beside, next | _____ |
| 11. What is this? | (Picture) Hippopotamus | _____ |
| 12. What are these children doing? | (Picture) Marching | _____ |
| 13. What is this? | (Real) Grapefruit | _____ |
| 14. Look at the yellow block and tell me where I put the green one. | (Real) Under or below | _____ |
| 15. What is this? | (Real) Skunk | _____ |

| <u>Question</u> | <u>Answer</u> | <u>Response</u> |
|---|------------------------|-----------------|
| 16. What am I doing? | (Real) Blowing | _____ |
| 17. What is this? | (Real) Donkey | _____ |
| 18. Look at the fish. Tell me where the water is. | (Picture) Around | _____ |
| 19. What is this little girl doing? | (Picture) Looking | _____ |
| 20. What is this? | (Real) Beet | _____ |
| 21. What is this? | (Picture) Raccoon | _____ |
| 22. What am I doing? | (Real) Listening | _____ |
| 23. What is this? | (Real) Pea | _____ |
| 24. What is this? | (Picture) Goat | _____ |
| 25. Look at the orange block and tell me where I put the blue one. | (Real) In, inside | _____ |
| 26. What is this? | (Picture) Skunk | _____ |
| 27. What is this? | (Picture) Grapefruit | _____ |
| 28. What am I doing? | (Real) Whispering | _____ |
| 29. Where is the doll? | (Picture) On | _____ |
| 30. What is this | (Real) Cucumber | _____ |
| 31. What is this? | (Real) Hippopotamus | _____ |
| 32. What is this little boy doing? | (Picture) Listening | _____ |
| 33. What is this? | (Picture) Strawberry | _____ |
| 34. Look at these children. Where is the boy? | (Picture) Beside, next | _____ |
| 35. What am I doing? | (Real) Marching | _____ |
| 36. Look at the green block and tell me where I put the yellow one. | (Real) Around | _____ |
| 37. What is this? | (Picture) Pea | _____ |
| 38. What is this? | (Real) Goat | _____ |

| <u>Question</u> | <u>Answer</u> | <u>Response</u> |
|------------------------------------|-------------------|-----------------|
| 39. Where is the ball? | (Picture) Under | _____ |
| 40. What is this little boy doing? | (Picture) Blowing | _____ |

PRESENTATION AND DISCUSSION OF FINDINGS

In this study 24 lower-socioeconomic class children (enrolled in the Head Start program in Ogden, Utah) and 24 middle-socioeconomic class children (enrolled in the Child Development Laboratory program at Utah State University in Logan, Utah) were given a verbal labeling test written by this author which consisted of 40 questions. Twenty of the questions asked the children to label real or three-dimensional objects in the four areas of: foods, animals, positional words, and action words. The other 20 questions asked the children to label pictures of the same objects or actions.

To facilitate the presentation and discussion of the findings in this study, Figures 1 through 20 were devised for clarification and reference. These figures each depict the range of responses for two questions combined--the question concerning the real referent and the question concerning the picture of the same referent. They also show the number of Head Start and the number of nursery school children responding in each particular way.

Each group of questions will be presented separately and the writer will look at each question as well as how it compares to its counterpart, either the real referent or the picture of the same referent. The responses have been examined and appear to suggest the following findings.

Patterns and Content of Responses in Food Group

Strawberry

An artificial cluster of strawberries which looked very real was used for a real strawberry since they were out of season at the time of the investigation. A picture of a bowl of strawberries was used for the picture of strawberries. (See Figure 1.)

Of the 24 children in the study who were enrolled in the Child Development Laboratory program, ten of them responded to the question "What is this?" with the correct response, "strawberry." Of the 24 children in the study who were enrolled in the Head Start program only four of them responded with the correct response. Eight of the middle-class children responded with words representing the names of other fruits, and of these eight, five responded with "raspberry." On the other hand, eleven of the lower-social-class children responded with words representing other fruits and of these 11, five responded with "cherries." In the nursery school group two of them said "I forgot," one said "I don't know," and three made no response at all. In the Head Start group two responded with "I don't know," and two with "no," and two made no response at all. The remaining responses in this group included "flowers" (two), and "hot peppers" (one). The child who responded with "hot peppers" responded to two of the other food questions with "hot peppers."

Of the 24 nursery school children, 13 of them responded to the picture of the strawberry with the correct response, "strawberry." Only three of the Head Start children responded to the question in this

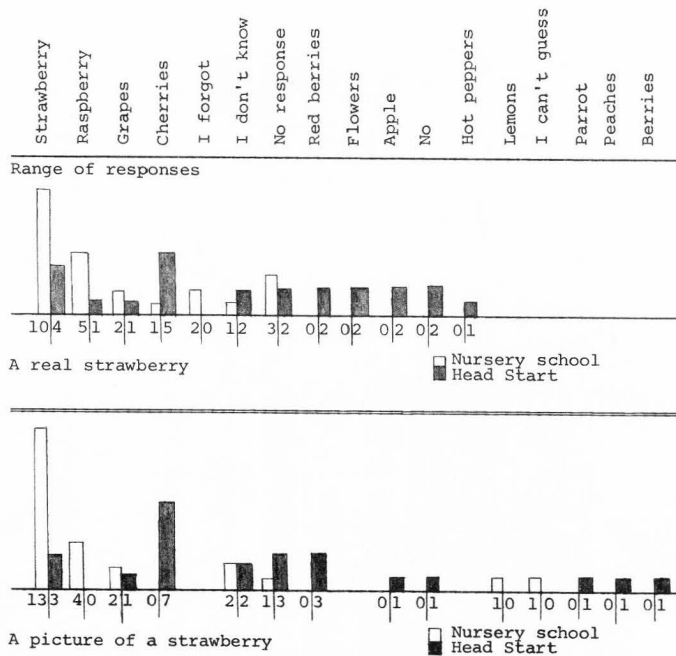


Figure 1. Responses of 20 Head Start and 20 nursery school children to the question (#1 and #33) "What is this?" (A strawberry).

way. Seven of the middle-class children responded with words representing other fruits, and of these, four said "raspberry." In the lower-social-class group, 14 responded with words representing other fruits and of these, seven said "cherries." In the middle-class group two said "I don't know," one said "I can't guess," and one made no response. In the other group two said "I don't know," one said "no," and three made no response. The remaining response was "parrot" and the child responding in this way also responded to two of the other food questions with "parrot."

It appears, as is depicted in the graphs in Figure 1, that as one moves further away from the correct response toward responses that do not even resemble the correct response one finds more Head Start responses than nursery school responses.

In this group more middle-class children than lower-social-class children labeled the strawberry a raspberry, and more the lower-social-class children compared to the other group of children labeled it a cherry. Perhaps this pattern suggests that a round, red fruit most familiar to some of the middle-class children is a raspberry, and a fruit of this sort most familiar to some of the lower-social-class children is a cherry. Or, perhaps the children responding with raspberry, cherry, or grapes are just confused with how each fruit is labeled since each of these is a small, round, red fruit.

The writer's hypothesis concerning the real objects and the pictures of the objects cannot be fully accepted with regard to these two questions. Thirteen of the middle-class children identified the picture of the strawberry as compared to 10 of them identifying the real strawberry. However, three of the lower-social-class children

identified the picture of the strawberry while four of them identified the real strawberry.

The hypothesis concerning the middle-class compared to the lower-social-class children must be rejected in these two questions by the fact that there were six more of the middle-class children able to identify the real strawberry and ten more able to identify the picture of the strawberry.

Pea

A pea in a pea pod was shown to the child for the real pea and a picture of a dish of peas was shown for the question referring to the picture of a pea. (See Figure 2.)

Five of the nursery school children responded with the correct answer to the question regarding the real pea, and to the same question three of the Head Start children responded this way. Six of the middle-class children replied with "beans," and one said "a bean's inside." In the lower-social-class group three responded with "beans" and one said, "covers beans." In the middle-class group five replied with labels for other fruits and vegetables, while in the lower-social-class group two called it a "carrot," one a "leaf," and one a "hot pepper." Three of the children in the middle-class group said they did not know, one said he forgot, and three gave no response at all. Other responses in the Head Start group included "a balloon" (one), "I don't remember" (one), "I don't know" (three), "no" (two), and six made no response at all.

In regards to the question concerning the picture of the peas, there was an even greater difference than found on the previous question.

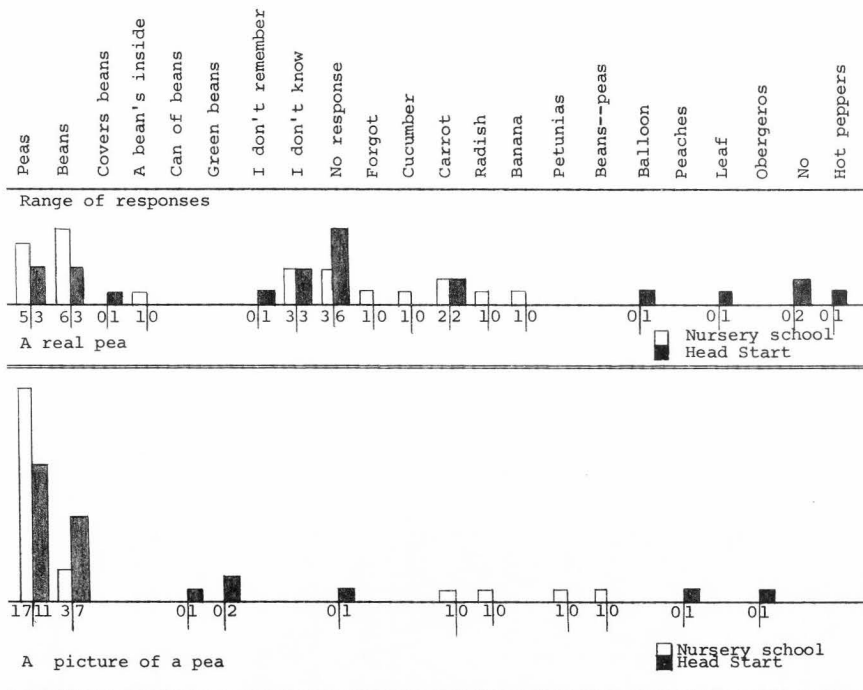


Figure 2. Responses of 20 Head Start and 20 nursery school children to the questions (#23 and #37) "What is this?" (a pea or peas).

While 17 of the middle-class children responded with the correct answer, only 11 of the lower-social-class children responded with "peas." Concerning the response "beans," three of the nursery school children responded in this way compared to seven Head Start children which was almost opposite of what it was in the above question. In addition, one Head Start child replied "a can of beans," and two Head Start children called them "green beans." Other nursery school responses included "carrot" (one), "radish" (one), "beans--peas" (one), and one child called them "petunias" and this same child responded with this answer on another food question. To this question one lower-social-class child made no response, one called it a "peach" and one called it an "obergeros" which does not appear to be an English word.

In this group there was a greater number of both classes of children who responded correctly to the picture of the pea compared to the real pea. The writer feels this difference between the real object and the picture of the object may in part be accounted for by the fact that the real pea was shown in the pod whereas the picture of the peas showed peas in a dish which would probably be more familiar to the children. The shape of the pod of a pea is similar to the shape of a bean and is the same color so this may account for the number (ten) of lower-social-class children that responded to the picture of the pea with "beans," "can of beans," or "green beans."

It was found that there was not a great deal of difference between the lower-social-class children and the middle-class children on the real object question, but with the picture of the pea, six more of the nursery school children responded correctly.

With these two questions again we find that as we move further away from the correct response we find more lower-social-class children responding with words which are not even vegetables or fruits and even in one case with a non-existent word.

Cucumber

A real whole cucumber was shown to the children and a picture of a real, whole cucumber was also used. (See Figure 3.)

Of the 24 children in the middle-class group, half of them (12) responded to the question concerning the real cucumber correctly, whereas only two of the lower-social-class children responded correctly. Two of the middle-class children called it a watermelon compared with four of the lower-social-class children. Two of the middle-class children called it a squash. One middle-class child referred to it as a "lemon" while five of the lower-social-class children labeled it some fruit or vegetable. Three of the middle-class group and six of the lower-social-class group said, "I don't know," three of the middle-class and six of the lower-social-class children made no response, and one middle-class child said, "I can't guess." One of the lower-social-class responses was "parrot."

In reference to the question on the picture of the cucumber, eight of the middle-class children compared to two of the lower-social-class children replied correctly. The same number of both classes (five) responded with "watermelon" and again, two of the middle-class children responded with "squash." One of the middle-class children categorized it by saying "something to eat." and one middle-class child called it a "lemon." Of the lower-social-class children, three called it other

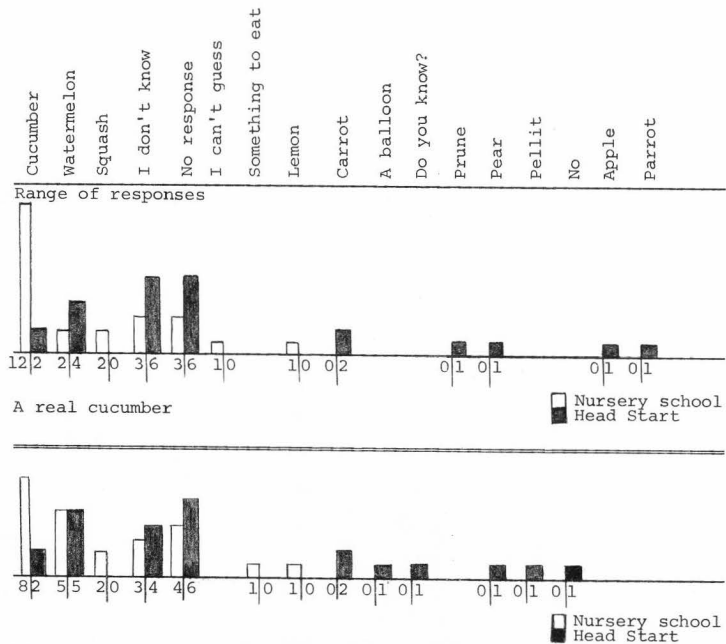


Figure 3. Responses of 20 Head Start and 20 nursery school children to the questions (#30 and #9) "What is this?" (a cucumber).

fruits or vegetables and one labeled it "pellet" and one a "balloon." One lower-social-class child replied, "no," and one lower-social-class child asked "Do you know?" Three of the middle-class children said they did not know while four lower-social-class children replied in this way; four middle-class and six lower-social-class children made no response.

One can easily notice the difference between the lower-social-class and middle-class children on these two questions. There were ten more middle-class children than lower-social-class children that responded with the correct response when asked what the real cucumber was. There were six more that responded with the correct response when the picture of the cucumber was shown.

It may also be noticed that 16 of the middle-class children responded to the real cucumber question with either the correct response or the response which most resembled in appearance the correct one--watermelon or squash. Only six of the lower-social-class children responded in one of these three ways. On the picture question 15 of the middle-class children responded in one of the three ways previously mentioned, while only seven of the lower-social-class children did so. This suggests that the middle-class children, in regards to these two questions, more often gave the correct response or at least a response which closely resembled in appearance the correct one.

On both questions concerning the cucumber, the lower-social-class children more often than the middle-class children either made no response at all or said they did not know.

It can again be observed from the graphs that as we move to the right of the baseline we find more lower-social-class responses indicating more foreign responses.

The hypothesis concerned with comparing the real object and a picture of the same object was, again, not fully supported. Four more of the middle-class children were able to identify the real object as compared to the picture, but there was no difference among children in the lower-social-class group.

Grapefruit

A real, whole grapefruit was used and a picture of a half of grapefruit on a dish was shown to the children. (See Figure 4.)

Five of the 24 children in the middle-class group responded correctly to the question referring to the real grapefruit compared to the one child in the lower-social-class sample. The response made most often (eight times) by the lower-social-class children was "orange" and only two of the middle-class children responded in this way. One middle-class child categorized it as "fruit," and one labeled it "vitamin C." Four middle-class children and five lower-social-class children responded with labels for other fruits or vegetables. Four of the middle-class sample made responses indicating they did not know and four of the lower-social-class children made similar responses. Seven of the middle-class children and six of the lower-social-class made no response at all.

Of the 24 children in the middle-class sample responding to the picture of the grapefruit six did so correctly while one lower-social-class child do so. Again, the most typical response (11) of the lower-social-class sample was "orange," while none of the middle-class

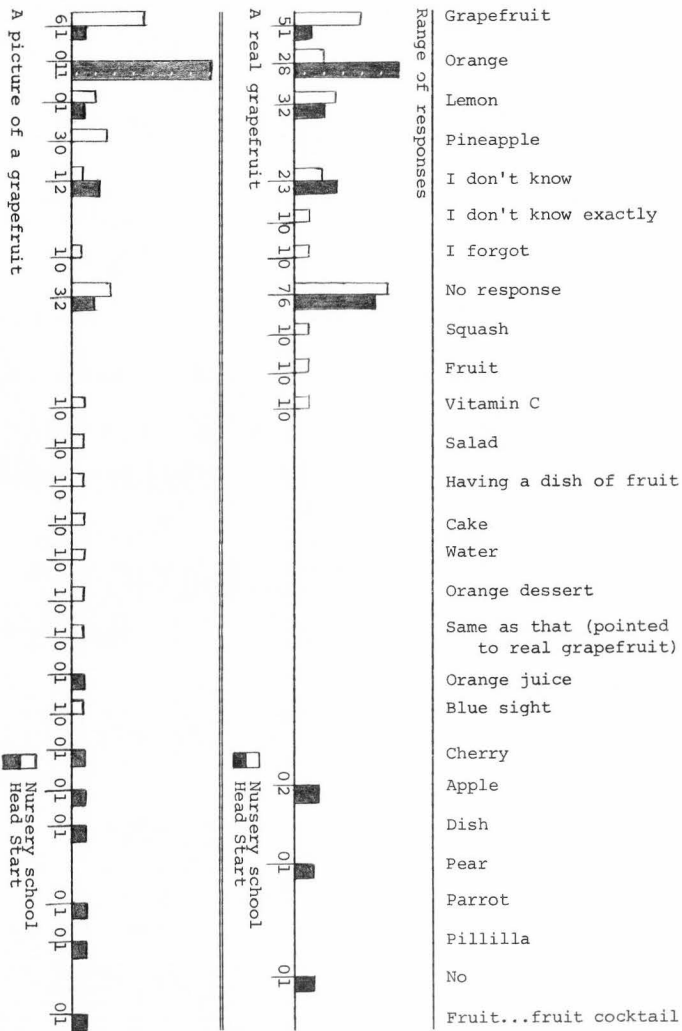


Figure 4. Responses of 20 Head Start and 20 nursery school children to the question (#13 and #27) "What is this?" (a grapefruit).

children replied with names for other fruits while three of the lower-social-class did so. Two lower-social-class and two middle-class made responses indicating they did not know and three middle-class and two lower-social-class made no response at all. One nursery school child labeled it "fruit," and one said, "having a dish of fruit;" one lower-social-class child said "fruit" and then continued by saying, "fruit cocktail." One middle-class called it "vitamin C." Five of the middle-class children made responses of other types of foods or water and one replied with "blue sight." One lower-social-class child pointed to the real grapefruit and said, "same as that." Also in the lower-social-class sample one labeled it a "dish," perhaps due to the fact that it was pictured on a dish; one called it a "parrot," and one a "pillilla."

From the findings of these two questions there are several interesting patterns which can be seen. One of the most easily observed is the number of lower-social-class children labeling the grapefruit an orange on both the concrete and picture questions; and, in contrast, only one child labeled it correctly as a grapefruit. This suggests that the grapefruit is a very unfamiliar fruit to the lower-social-class child while the orange is perhaps more familiar. However, although not half of the middle-class children on either question were able to give the correct response, few of them responded with orange. The author would assume that the orange is just as familiar to the middle-class child but perhaps he is able to make the color and/or size distinction and can tell that the grapefruit is definitely not an orange.

Although there were not many in the middle-class sample who were able to identify the grapefruit, there were again more (four more on

the concrete question and five more on the picture question) of these children who gave the correct response.

In regards to the comparison between the picture and the concrete response there was again no difference in the lower-class sample and only a small difference (one) in the other group.

One can also see by observing the graph the number (seven nursery school children and six lower-social-class children on the concrete question and three nursery school and two Head Start on the picture question) of children making no response. The reason for this is unknown to the writer.

One of the most interesting responses made in the study was the response by a middle-class female to these questions. Very confidently she responded to both questions with "vitamin C" and the writer could imagine her mother putting a grapefruit before her and saying, "Eat your vitamin C." This suggests the correlation of language and concept development too.

Another interesting pattern is to notice how the responses to the picture question are much more spread out for both classes than are the responses to the question about the real or concrete item.

There were several unusual responses such as, "having a dish of fruit" which is not even a noun; "water" was another unexpected response as well as "blue sight" and "pillilla." It would be interesting to know why these particularly unusual responses turn up; have the child heard these words recently or even ever before, or are they merely guessing with anything that appears in their mind?

Beet

A whole, real beet and its greens was shown and a picture of a whole beet and its greens was shown for the purpose of these two questions. (See Figure 5.)

This food is very evidently an unfamiliar one to both groups of children. Only one lower-social-class child and one middle-class child were able to correctly label the real beet. Over half (13) of the nursery school children responded with "radish" and none of the lower-social-class made this response. One middle-class child called them "plants," one "petunias," and two "carrots." The most common occurrence (eight) for the lower-social-class children on the concrete question was no response at all and here there were two children in the middle-class sample. Four of the middle-class and three of the lower-social-class children made responses indicating they did not know. Five of the lower-social-class children labeled it a "flower" and three of them "leaves." One lower-social-class child also said, "put in grass." Other responses from the lower-social-class group included: "carrot" (one), "onion" (one), and "hot peppers" (one).

Of the 24 children responding to the picture of the beet only one middle-class and two Head Start children responded correctly. Six of the middle-class labeled it a "radish" and one lower-social-class child did so. One middle-class child labeled it a "plant" and one labeled it "food." Seven of the middle-class sample labeled it other vegetables or fruits, and seven lower-social-class children labeled it in this same way. One lower-social-class child replied with "flowers," one with "leaves," and one with "tree." Seven of the middle-class and three

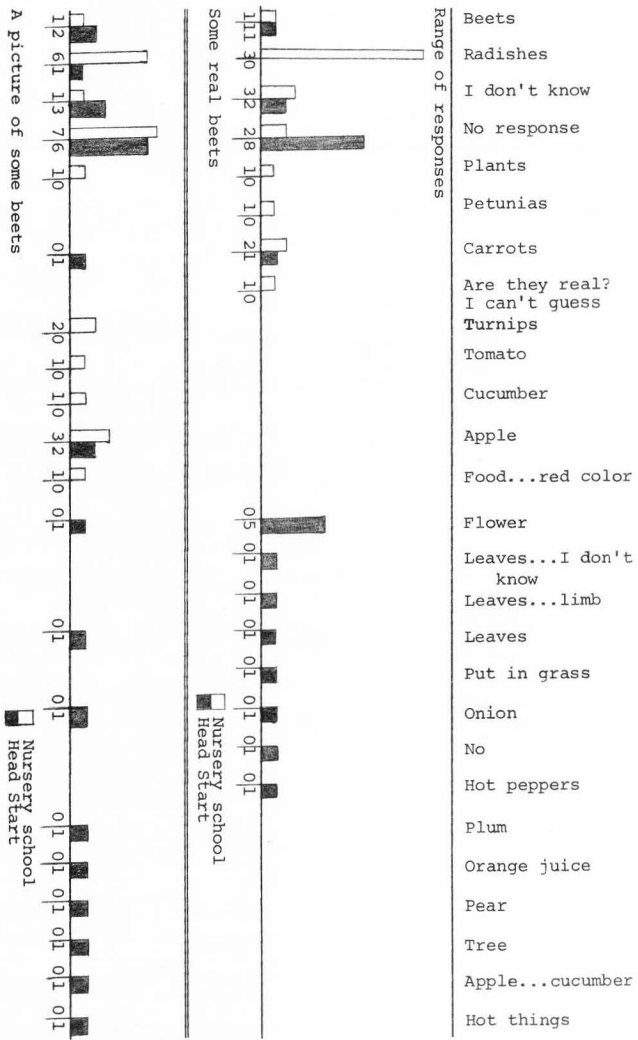


Figure 5. Responses of 20 Head Start and 20 nursery school children to the question (#20 and #5) "What is this?" (beets).

lower-social-class children made no response. One middle-class and three lower-social-class children said, "I don't know." Other Head Start responses included "orange juice" and "hot things."

There was little difference in the correct response between the classes on these two questions, the only difference being one more lower-social-class child responding correctly to the picture of the beets. This suggests that beets are either not a common food in the diets of these children, or they are unable to relate prepared beets they may eat to the real, whole beet. There was also no difference among children in the middle-class sample in their ability to label the concrete item compared to the picture item; with regard to this comparison among children in the lower-social-class, there was one more able to identify the picture as compared to the real referent.

Over half (13) of the nursery school children responded to the concrete beet by saying "radish" but only six of these children responded in this way when shown the picture of the beet. Perhaps this difference can be explained by the fact that the real beet was smaller than the picture of the beet thus resembling a radish more.

Although the investigator pointed directly to the beet for both the real and the picture questions, when she asked "What is this?" it is interesting to notice, particularly on the real beet question, the number of low-social-class children making responses relating to parts of the referent other than what she was pointing to such as "leaves." None of the middle-class children made such responses. Many of the responses made to both questions relating to the beet were single responses with only one child responding in that particular way.

Summary of findings in food group

Out of the ten questions in this food group eight of them showed a difference in the number of middle-class children able to respond correctly compared to the number of lower-social-class children able to make the proper response. In these eight questions, relating to the strawberry, pea, cucumber, and grapefruit, the middle-class children responded correctly a greater number of times than did the lower-social-class children. On the two questions relating to the beet the only difference was one more lower-social-class child responded correctly to the picture of the beet which seemed not to be recognized by children in either group.

It was also found that more middle-class children than lower-social-class children who made incorrect responses made responses that more closely resembled the appearance in either size, color or shape of the correct referent. Head Start children more often than the other group of children made responses that resembled in no way the correct response.

There does not seem to be any pattern established for the comparing of real referents and picture referents in this food group. In some instances it appears that the object was easier for the child to identify in the picture, and in others it was easier to identify when shown the real object. Still in other cases there appears to be no apparent difference. On one set of questions there were more middle-class children able to identify the referent in the picture, but more of the lower-social-class children were able to identify it correctly when shown the concrete referent. Perhaps this difference in some instances was due to the choice of picture. For example, the picture of

the pea depicted peas in a bowl as the child would usually see them at mealtime. However, the real pea was shown in a pod and this would be more unusual probably.

By observing the findings one can see the importance of helping the child learn to make fine differentiations. For example, a grape-fruit and orange resemble each other in shape but when observed there can be identified the difference in size and color.

In the ten questions in the food group there were several responses in which the child would categorize the referent into a category such as fruit, plant, or food. Although there were few instances of this it can be observed that when this type of response was made it tended to be from middle-class children. This is in agreement with John's finding (1963) where children were asked to sort drawings into logically consistent piles. The middle-class children tended to categorize, and lower-social-class children tended to reflect a specific aspect of communality.

The writer is of the opinion, as the data from this group of questions relating to a noun is observed, that the child, in order to learn the labels associated with such nouns, needs to have a bond established between the word and the referent, this idea is supported by John and Goldstein (1964). This means he must not only have experience with the object but at the same time a more verbally mature speaker must relate to him the word representing the referent. Many times by observing the child's facial expression when he was shown the referent, the investigator felt the child had seen the object or had had some experience with it before but either could not recall the label or had not established this bond between word and referent.

Also, in order to establish the bond so that the word becomes functional the child needs experience in using the word. This means he needs to be actively engaged in verbal interaction with those in his environment. Perhaps some of the difference found between the lower-social-class children and middle-class children in this study can be justified by this. Researchers (Bernstein, 1960; Milner, 1951; John and Goldstein, 1964) have found that the opportunities for children to engage in active dialogue do differ between the middle-class child's environment and the lower-social-class child's environment. John and Goldstein (1964) contend that the lower-social-class child learns most of his language by receptive exposure (hearing). Bernstein (1960) has emphasized that this use of language does make a difference.

It is also the writer's feeling that the reason for many of the middle-class children not being able to correctly label these foods may also be because he does not have a relationship established between this referent and a label or word. This may not be because he is not familiar with the referent, but because he has not heard the label enough and/or had enough experience in using it himself. For example, the child who labeled the grapefruit "vitamin C" had evidently had experience with a grapefruit but had not had experience in verbally calling it a grapefruit and therefore establishing the correct bond between the referent and the word. It is also logical to assume that the more he uses the word the stronger the bond is made and the more likely his recall of the label when shown the referent.

Patterns and Content of Responses in Animal Group

Raccoon

A small, glass figurine which closely resembled a real raccoon was used for the concrete object. A picture of a raccoon was used for the picture question. (See Figure 6.)

Of the 24 children in the study who were enrolled in the Child Development Laboratory program, five of them responded to the question concerning the concrete raccoon with the correct response. On the other hand, none of the lower-social-class children responded correctly. The response made most often by both groups of children was "cat," and there were seven in each group who responded in this way. There were also other answers which closely resembled that of "cat." One middle-class child said "play cat" and one said "kitty." One lower-social-class child said "kitty" and two said "kitty cat." One middle-class child labeled it a "squirrel." There were also other animal responses made. One middle-class child called it a "wolf" and One lower-social-class child replied in this way. "Dog" was the response of one lower-social-class child and two of them said "dog" but changed their minds and said "cat." Other lower-class responses were "tiger," "tat," a "ditty," and a "fox." Four of the nursery school children said they did not know, while two of the Head Start children made such a response. There were an equal number (three in each group) who made no response at all.

With regard to the picture of the raccoon, eight of the nursery school children responded with the correct response while only one lower-social-class child did so. On the other hand, one middle-class child replied with "cat" and seven lower-social-class children

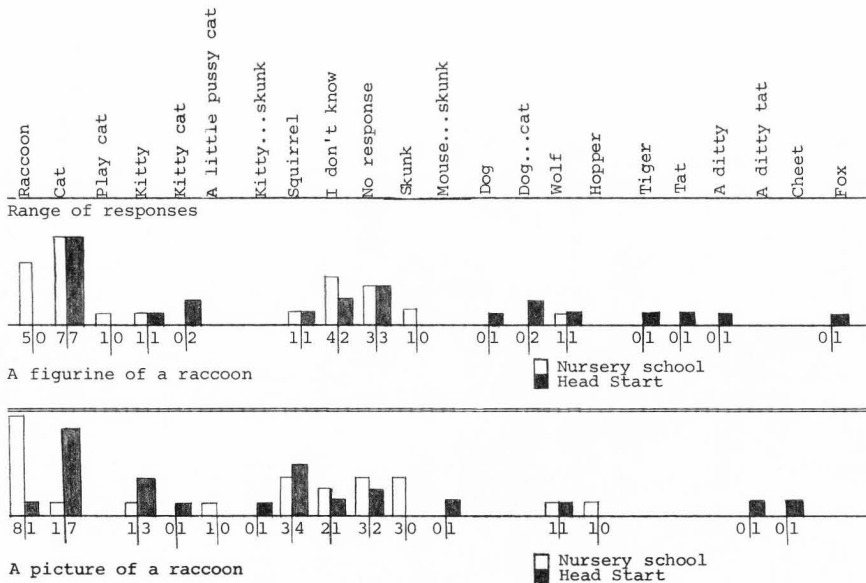


Figure 6. Responses of 20 Head Start and 20 nursery school children to the question (#7 and #21) "What is this?" (a raccoon).

responded in this way. "Kitty" was the response of one middle-class and three lower-social-class children, and other answers which closely resembled this were "kitty cat" (one lower-class) and "a little pussy cat" (one middle-class child). One lower-social-class child said "kitty" and then reconsidered and said "skunk," and one said "mouse" but then changed and said "skunk." Three of the middle-class children replied with "skunk" and three with "squirrel." Four of the lower-social-class said "squirrel." One middle-class child said "wolf" while one lower-social-class child replied in this way. "Hopper" was the response of one middle-class child and this child responded to two of the other animal questions in this way. One Head Start child said "a ditty tat," and one said "cheet." The child who replied with "cheet" did so on three of the other animal questions too. Two of the middle-class children said "I don't know" and one lower-social-class said this. Three nursery school children made no response while two Head Start children did so.

Again we find a pattern similar to what we found on the food questions. As one moves to the right on the graph baseline or away from the correct response you can see more and more lower-social-class responses. Also, again one can see responses which far from resemble the correct one. The writer would imagine that the children who made responses such as "tat" or "ditty tat" were mispronouncing "cat" and "kitty."

It is very evident that the response made most often to this set of questions was "cat" or something resembling semantically the word cat. Nine of the middle-class and 14 of the lower-social-class children responded to the concrete question with either "cat" or a word

similar in meaning or what appeared to be similar in meaning. On the picture question only three of the middle-class compared with 13 of the lower-social-class children responded with "cat" or a semantically similar word. This is an interesting pattern in itself, perhaps suggesting that the figurine did resemble a cat to a good portion of children in both groups, but most of the children in the middle-class were able to tell by looking at the picture that it was not a cat, whereas a large portion of lower-social-class thought again it was a cat. This may suggest a difference between the two groups in ability to differentiate, particularly when it comes to fine distinctions.

In this set of questions more middle-class children than lower-social-class children responded correctly. There were five more middle-class children able to identify the raccoon and seven more of them able to correctly identify the picture of the raccoon. Therefore, the first hypothesis would be rejected with reference to this set of questions.

Three more children in the middle-class group were able to make the correct response with the picture of the raccoon compared to the concrete raccoon, while one lower-social-class child was able to correctly identify it in the picture compared with none able to identify it as an object.

One can also see that the majority of children in both groups have not conceptualized what a raccoon is. The writer had anticipated that more of the children would be able to identify it through experience with pictures of it in stories or on television.

Donkey

The next set of questions in the animal group referred to a donkey. A figurine of a donkey was used for the concrete object and a picture of a donkey was also used. (See Figure 7.)

Eleven of the middle-class children and six of the lower-social-class children identified the concrete donkey correctly. Four middle-class children labeled it a "horse," while one said "baby horse," and two said "pony." Five of the lower-social-class children said "horse" and three said "horsie" and one said "cow" and then changed his mind and said "horsie." Two of the nursery school children said "deer" and one Head Start child responded this way. One middle-class child called it a "camel," one a "mountain goat," and one a "rabbit." Other lower-social-class responses included "cow" (two), "dog" (one), "animal . . . balloon" (one), and "cheet" (one). One middle-class made no response and two lower-social-class child did likewise while one lower-social-class said "I don't know."

In reference to the picture question ten middle-class and four lower-social-class children responded correctly. One nursery school child called it a "horse," one a "baby horse," and two a "pony." In the lower-social-class group four called it a "horse" and five a "horsie." Two labeled it a "deer" in the middle-class group and one in the lower-social-class group. One middle-class child said "sheep" and three replied with "goat." In the lower-social-class group other responses to the picture of the donkey were: "cow" (one), "sheep" (two), "lamb" (one), and "animal . . . balloon" (one). An equal number in both groups (two) made no response and one lower-social-class said "no." One middle-class said "can't tell" and one said "I don't know" while two lower-social-class children said "I don't know."

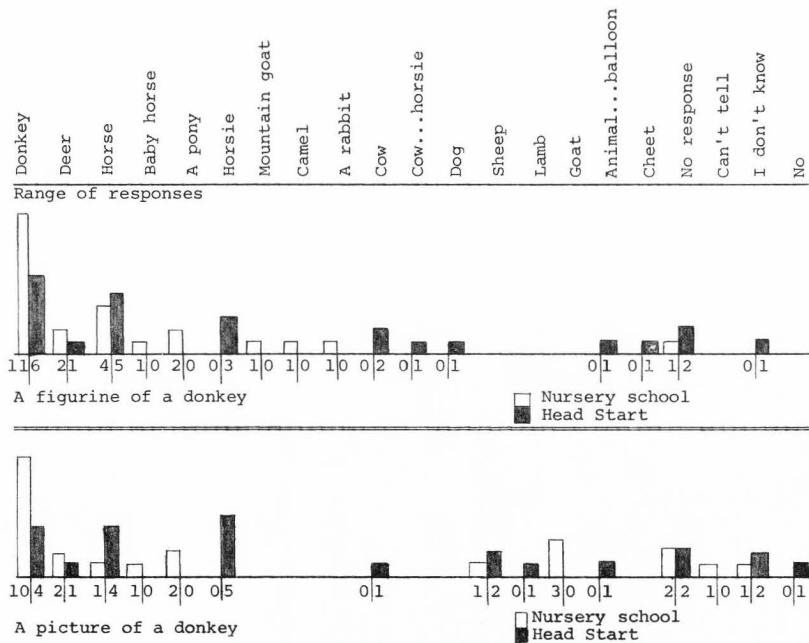


Figure 7. Responses of 20 Head Start and 20 nursery school children to the question (#4 and #17) "What is this?" (a donkey).

There were several interesting patterns on this set of questions. There was indeed a difference between the middle-class and the lower-social-class children with regard to the correct labeling of a donkey on both questions. There were five more middle-class children able to correctly identify the donkey on the concrete question and there were six more middle-class able to correctly identify it when shown the picture of the donkey. Also, in both groups, although there was not a great difference, more children were able to correctly identify the concrete object compared to the picture. One more middle-class and two more lower-social-class were able to identify the concrete item.

Several children in both groups labeled the donkey "horse" or something semantically resembling horse (seven middle-class and nine lower-social-class children). On the picture question, four nursery school and ten Head Start children labeled it in the previously mentioned way. It was also interesting to note that four lower-social-class children labeled the concrete item "horsie" and five lower-social-class children labeled the picture item this way. None of the middle-class children made this type of response. This suggests to the writer a form of language resembling baby-talk.

One lower-social-class child on both questions at first categorized the donkey by responding with "animal" but then said "balloon." The writer does not know any possible explanation for this child's response. This child answered another question in this section in this same way also. The origin of the word "cheet" would be interesting; it was used by one lower-social-class child on the concrete question concerning the donkey and also by the same child on two other animal questions. Perhaps the child had seen some type of animal whose name was "cheet," but this is only a conjecture.

Skunk

A figurine of a skunk, closely resembling a real skunk was used for the concrete question and a picture of a skunk was used for the picture question. (See Figure 8.)

Of the 24 children in the middle-class group, eleven of them responded to the concrete question with the correct response while only two of the lower-social-class children did so. An equal number of both groups (four) replied with "squirrel," and two of the middle-class and one of the lower-social-class said "raccoon." One lower-social-class child said "goes up a tree" and one said "chipmunk." There were several responses which semantically resembled "dog." Three middle-class and three lower-social-class children said "dog," three lower-social-class said "doggie," two lower-social-class said "puppy," and one lower-social-class said "dog" but then changed his mind and said "squirrel." One lower-social-class child's response was "cat." "Snake" was the response of one middle-class child and "hopper" was the response of another one. Two lower-social-class responses were "mouse." One nursery school child made no response. One lower-social-class child said "no," and one nursery school and two Head Start made responses indicating they did not know.

There were 13 middle-class children who responded to the picture of the skunk correctly and five of the lower-social-class children did so. Two of the middle-class and six of the lower-social-class replied with "squirrel," while three middle-class and one lower-social-class said "raccoon." Also, one Head Start child said "chipmunk." None of the nursery school children responded with anything representing "dog" while one lower-social-class child replied with "dog" and two said

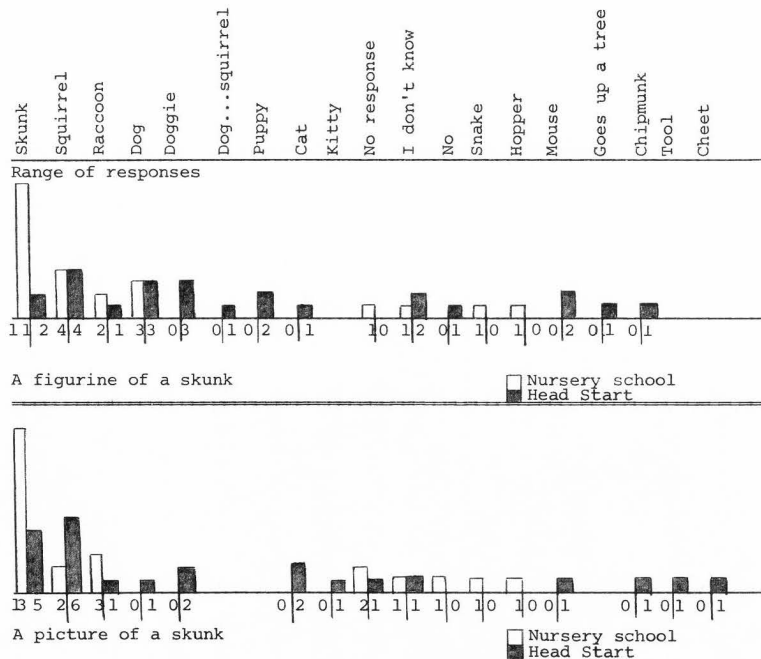


Figure 8. Responses of 20 Head Start and 20 nursery school children to the question (#15 and #26) "What is this?" (a skunk).

"doggie." Again there was one middle-class child who said "hopper" and one who said "snake." Two lower-social-class children said "cat" and one said "kitty." "Mouse" was the response of one Head Start child and there was also one who labeled the skunk a "tool" and one lower-social-class child said "cheet." A nursery school child said "no" and two made no response while one lower-social-class made no response at all. One in each group said "I don't know."

One can again see the difference between the middle-class and lower-social-class children, particularly on the correct responses to these questions. There were nine more middle-class compared to lower-social-class able to correctly identify the concrete skunk and there were eight more able to identify the skunk in the picture. The squirrel seems to be a more familiar animal than a skunk for the lower-social-class children with five of them responding with this answer to the figurine of the skunk and six to the picture of it. We also see lower-social-class children attaching the "-ie" to a word like dog, three of them saying "doggie" when shown the concrete skunk and two saying "doggie" when shown the picture. Also, two answers, "cheet" and "hopper" have been given as responses to other questions; it is difficult to ascertain their origin.

It can also be seen that there were two more middle-class children able to identify the skunk in the picture compared with the concrete skunk and there were three more lower-social-class children able to do likewise.

It is again difficult to understand how responses like "snake" (middle-class response), "mouse" (lower-social-class response) and

"tool" (lower-social-class response) appear, for they do not resemble a skunk in either appearance or semantically.

Goat

The next set of questions referred to a goat and a stuffed animal closely resembling a real goat was used for the concrete question and a picture of a goat was used for the picture question. (See Figure 9.)

Seven of the middle-class and three of the lower-social-class children correctly labeled the stuffed goat; however, of the seven middle-class responses one said "mountain goat" and one said "Billy goat." Of the three lower-social-class responses, one said "sheep" at first and then said "Billy goat." The answer given most often by both groups was "lamb" or a derivative of it with eight of the middle-class and three of the lower-social-class giving this kind of reply. Of the eight nursery school responses, one said "lambie-pie." Three middle-class and four lower-social-class children said "sheep." One nursery school child said "donkey" and one said "kitty cat." While two middle-class children said "dog," three of the lower-social-class children said "dog," two said "doggie" and one said "puppy." Other lower-social-class responses included "cow" (one), "horse (one), and "rabbit (one). One middle-class made no response and two lower-social-class children did likewise. One middle-class and two lower-social-class children said "I don't know" and one lower-social-class said "no."

There were only three middle-class and five lower-social-class who gave the correct response when shown the picture. Of the five lower-social-class who gave the correct response one replied with "Billy goat" and one with "mother goat." Seven middle-class and two lower-social-class labeled the goat a "lamb" and, of the seven middle-class, one

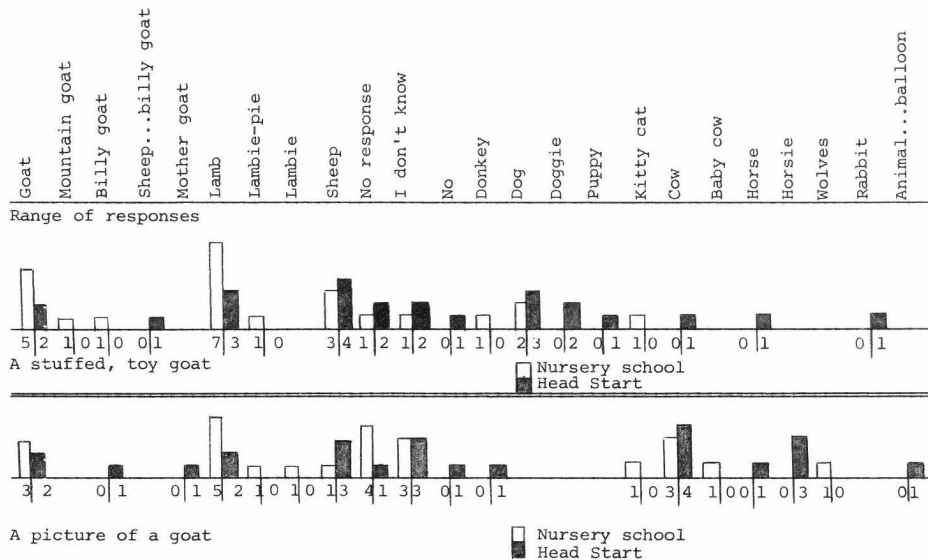


Figure 9. Responses of 20 Head Start and 20 nursery school children to the question (#24 and #38) "What is this?" (a goat).

said "lambie-pie" and one said "lambie." "Sheep" was the reply of one nursery school child and three Head Start children. There were several middle-class answers which far from resembled the correct response either semantically, phonologically, or in appearance. They were "puppy" (one), "cow" (three), "baby cow" (one), and "wolves" (one). Lower-social-class responses which would fall into this category of non-resemblance according to this investigator were "donkey" (one), "cow" (four), "horse" (one), "horsie" (three), and "animal . . . balloon" (one).

Four of the middle-class children made no response and one lower-social-class child did likewise. An equal number (three) of both groups said "I don't know" and one lower-social-class child said "no."

It is evident through observing the graph that there are relatively few children who have conceptualized what a goat is. One can also see the importance of helping the child differentiate between animals which do resemble each other such as the goat, lamb, and sheep.

There were four more middle-class children able to correctly identify the concrete goat but on the picture question there was one more lower-social-class compared to middle-class able to correctly identify it in the picture.

There were four more nursery school children able to give the correct response when shown the concrete object compared to the picture question, but there was one more lower-social-class child able to give the correct response when shown the picture as compared to when shown the object.

There were also more middle-class children who gave answers such as "sheep" or "lamb" which more closely resemble, in appearance, a goat.

It appears that responses for several children, and more often lower-social-class children, are labels of animals which would be more familiar to them or perhaps a part of their environment such as dog, cow, etc. even when the object being tested does not even resemble the label the child attaches to it.

On these two questions there were three middle-class children who either said "lambie" or "lambie-pie;" this was the first instance of middle-class children attaching the "-ie" to words. There were two lower-social-class children who said "doggie" and three of them who said "horsie." The same child who responded to the donkey questions with "animal . . . balloon" did likewise on the picture questions regarding the goat. The reason for this is unknown.

Hippopotamus

For the question referring to the hippopotamus a toy, rubber hippopotamus was used for the concrete object and a picture of a hippopotamus was used for the picture question. (See Figure 10.)

Fifteen of the 24 middle-class children labeled the concrete animal correctly and eight of the lower-social-class children did so. Three of the middle-class replied with "rhinoceros" and one called it an "octopus," and one an "alligator." Several children made a statement or asked a question about it such as "They go in the river" (one middle-class child), "Do they hurt? I don't know exactly" (one middle-class child), "Let me see his teeth, his eyes" (one lower-social-class child). Lower-social-class responses also included "animal . . . big" (one), "a frog" (one), "mouse" (two), "cow" (two) and "injun" (one). One middle-class and five lower-social-class children made no response at

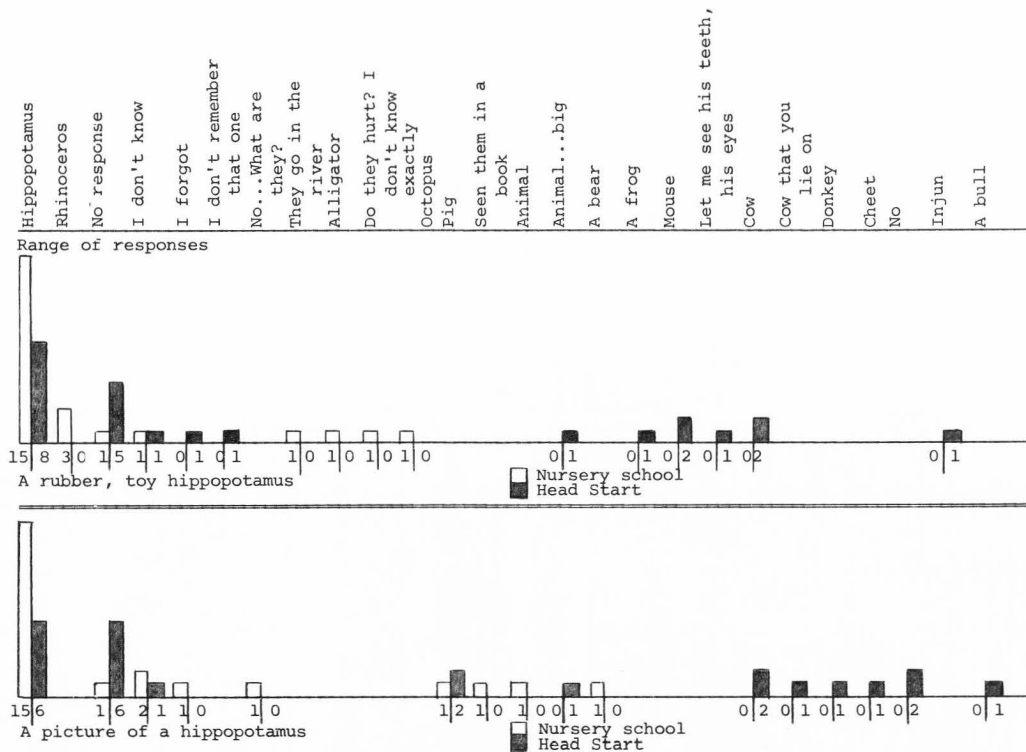


Figure 10. Responses of 20 Head Start and 20 nursery school children to the question (#11 and #31) "What is this?" (a hippopotamus).

all, one in each group said they did not know, one lower-social-class child said "I forgot," and one said "I don't remember that one."

Again 15 of the middle-class children responded correctly to the picture of the hippopotamus and six lower-social-class children did so. "Pig" was the response given by one middle-class child and two lower-social-class children. One middle-class categorized his response by saying "animal" and again one lower-social-class said "animal . . . big." One middle class labeled it a "bear" and one said "seen them in a book." Some of the lower-social-class responses included "cow" (two), "cow that you lie on" (one), "donkey" (one), "cheet" (one), and "bull" (one).

Two lower-social-class children said "no" and one middle-class child said "No, what are they?" Six Head Start children made no response at all and one middle-class child made no response. "I don't know" was the response of two middle-class and one lower-social-class child and one nursery school child said, "I forgot."

One of the first things that is evident in looking at this set of questions is the number that have made statements or questions regarding the referent or picture. One can only wonder why these types of responses did not occur as much on other food and animal questions.

There is also an obvious difference between the middle-class and lower-social-class in identifying the hippopotamus correctly. Seven more of the middle-class were able to identify the concrete item correctly and nine more middle-class were able to correctly label the picture of the hippopotamus. Evidently, the children, particularly the middle-class, have had the opportunity of seeing a hippopotamus either in stories or perhaps on television. There were more children in both

groups able to correctly identify this animal than any other animals used on the test.

Two more of the lower-social-class children were able to correctly identify the concrete item compared to the picture, but there was no difference among children in the middle-class group.

The writer would conjecture that the three middle-class children who labeled the hippopotamus a rhinoceros did so because these two animals resemble each other in appearance. Also, perhaps the reason for the responses of "alligator" and "octopus" is due to the fact that these words, like hippopotamus, are different and also because both these animals are water animals too.

Again, there were several lower-social-class responses which resembled in no way the hippopotamus such as "frog," "mouse," and "injun."

It is also interesting to note that on both of these questions there were more lower-social-class children than usual who were not willing to make any response at all.

Summary of findings in animal group

Out of the ten questions in this animal group, nine showed a difference in the number of middle-class children able to respond correctly compared to the number of lower-social-class children able to make the correct response. In these nine questions, which included all the animal questions with the exception of the question referring to the picture of the goat, the middle-class children responded correctly a greater number of times than did the lower-social-class children. On the question relating to the picture of the goat, three middle-class children called it a goat and only two lower-social-class, but one lower-social-class said "Billy goat" and one said "mother goat."

It was also found that when comparing between object and referent in this section of questions that there was not any kind of pattern established. In the middle-class groups, out of the five sets of questions, twice, more of them responded correctly to the picture than the object; twice, more of them responded correctly to the object; and once, there was no difference at all. In the lower-social-class group out of the sets of questions, three times, more of these children were able to respond correctly to the picture; two out of the five times, more were able to respond correctly to the object. It is unknown to the writer why this pattern is irregular unless sometimes the real referents are more clear and sometimes the pictures are easier to differentiate and may have more details which in turn help the child to determine just exactly what the animals are.

It can be noted here again that more middle-class children than lower-social-class children who made responses which were incorrect made responses which more closely resembled the correct response in appearance or in type of animal. Many times the lower-social-class child's response differed from the correct response as much as a hippopotamus and a frog differ.

Also the writer found that there were more lower-social-class responses which were not labels for animals at all or sometimes not even known English words. As has been pointed out in several instances the lower-social-class more often than the middle-class children attached the "-ie" ending to some words.

Another pattern in this section which also seems to be evident is that the lower-social-class child more often labeled animals with words for animals which would seem to be quite familiar such as cat or dog.

This suggest to the author that the middle-class child can more often make fine distinctions. For example, to many of the lower-social-class children a small furry animal represents a cat, but the middle-class child apparently looks at small discriminating cues which tell him this is not a cat.

Again, the importance of helping the child establish a relation between the word and the referent can be seen. He needs to have experience with both of these in order to be able to use and understand the word; in other words, to have it become functional for him. A response to the hippopotamus question, "They go in the river" indicates that this child knows what the referent is but either does not have a label for it or has not had enough experience with it to be able to recall it.

Patterns and Content of Responses in Action Group

Listening

In this set of questions for the concrete action the investigator had a watch and put it up to her ear and asked the child what she was doing. For the picture question a picture of a child sitting on his grandfather's knee listening to a watch was used. (See Figure 11.)

Of the 24 children in the middle-class group, ten of them either responded with "listening" or a phrase containing the word listening. Five of the lower-social-class children used this word when asked the question regarding the concrete action. "Hearing" was a response not anticipated by the investigator but which seemed to be as correct as listening. Ten of the middle-class responded with "hearing," "hear," or some phrase using one of the two of these words. Ten of the lower-social-class children responded in this way too. Other

- Listening
- Listening to the watch/clock
- Listening to a hand watch
- Listening what time it is
- Listening at a clock
- Listening in your ear
- Hearing
- Hearing the clock
- Hearing that tick
- Hearing the clock over his ear
- Hearing in the clock
- Trying to hear
- Hearing the sound of the clock
- Putting in ear hearing
- No response
- Seeing what time it is
- Ticking the clock
- A clock
- Putting a clock over your ear
- Checking my ear
- Fine
- Talking
- Ringing a bell
- I don't know
- Laughing
- Daddy's putting a clock in his ear
- Sitting in his daddy's lap
- The man's checking his ear
- Wants his Grandpa to check his ear
- Daddy's showing the clock

Range of responses

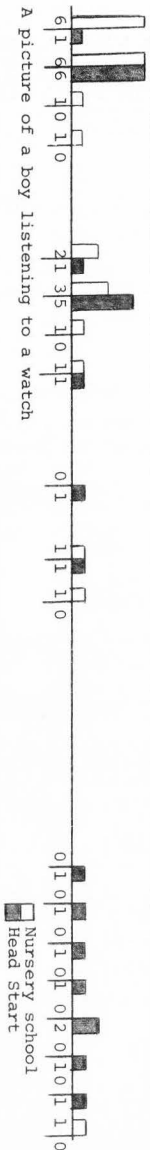
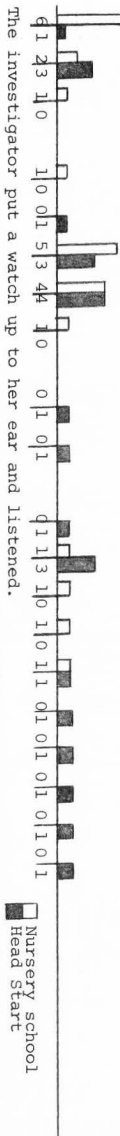


Figure 11. Responses of 20 Head Start and 20 nursery school children to the questions, "What am I doing?" (#22) and "What is this little boy doing?" (#32) (listening).

middle-class responses included: "seeing what time it is" (one), "ticking the clock" (one), and "a clock" (one). One lower-social-class child also said "a clock," One middle-class and three lower-social-class children made no response to this question. Other lower-social-class responses included: "putting a clock over your ear" (one), "checking my ear" (one), "fine" (one), "talking" (one), and "ringing a bell" (one).

With reference to the picture of the child listening, 14 of the nursery school children responded with "listening" or some phrase containing the word. Seven of the lower-social-class children responded in this way. Seven of the middle-class and eight of the lower-social-class children responded with "hearing" or a phrase using this word. One middle-class child said "seeing what time it is," and one made no response as did a lower-social-class child also. One middle-class child responded with "Daddy's showing the clock." Other lower-social-class responses included: "I don't know" (one), "ringing a bell" (one), "laughing" (one), "Daddy's putting a clock in his ear" (one), "sitting in his daddy's lap" (two), "the man's checking his ear" (one), and "wants his grandpa to check his ear" (one).

It was more difficult to ascertain a correct response from an incorrect response in this section of questions. However, on the concrete question there were more middle-class children than lower-social-class who responded with either "listening" or "hearing" or some phrase using one of these two words (20 middle-class children compared with 15 lower-social-class children). On the picture question there were also more middle-class children than lower-social-class children who

responded in the previously mentioned way (21 middle-class and 15 lower-social class children).

With regard to the comparison between picture and actual referent it can be seen that there was no difference among lower-social-class children and there were six more middle-class children responding correctly to the picture (using either "hearing" or "listening" or a phrase involving one of the two words).

One can see by observing figure 11 that the responses on the right side (or furthest away from the correct responses) are mainly single responses and the majority were made by lower-social-class children. Several of these responses are not directly related to what either the boy or the investigator were doing.

It is also interesting to notice the improper use of some prepositions such as "hearing in the clock," and "listening at a clock."

Blowing

The action word used in these two questions was blowing and for the concrete question the investigator blew up a balloon and before doing so asked the child what she was doing. For the picture question a picture of a boy blowing a dandelion was used. (See Figure 12.)

With reference to the concrete question all of the middle-class children either said "blowing," or a phrase containing it, or a derivative of it. Twenty-three of the lower-class children answered it in the previously mentioned way although one used the word "blowed" instead of blew. One lower-social-class child made no response.

On the picture question, 17 middle-class children and 14 lower-social-class children either replied with "blowing" or a phrase using

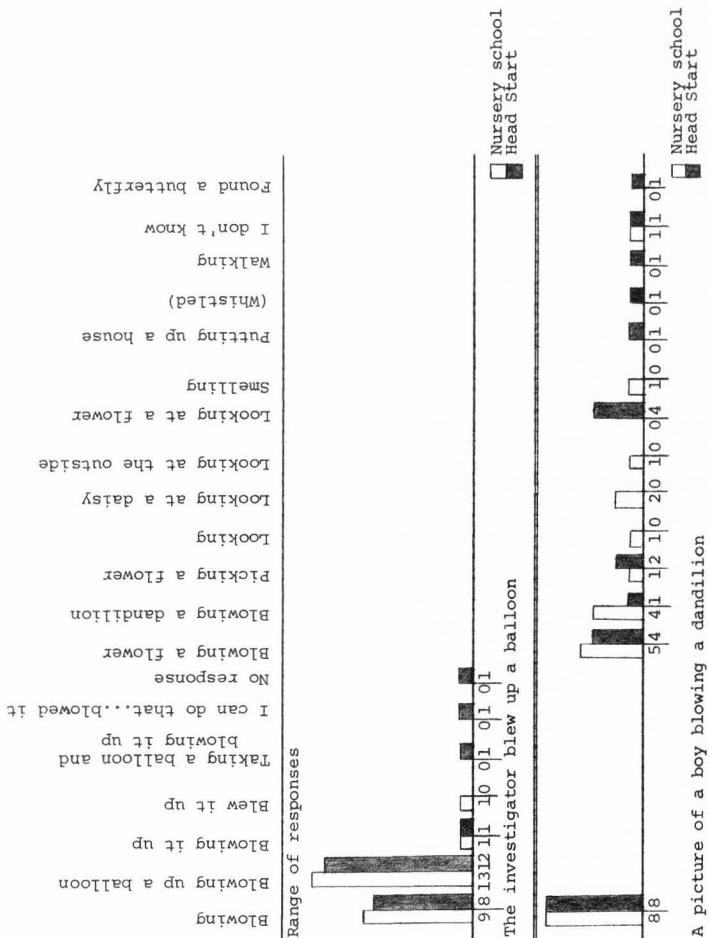


Figure 12. Responses of 20 Head Start and 20 nursery school children to the questions, "What am I doing?" (#16) and "What is this little boy doing?" (#40) (blowing).

"blowing." One nursery school and two Head Start children said, "picking a flower." Four in each group responded with "looking" or some phrase using this word. One middle-class child said "smelling." Other lower-social-class responses included: "putting up a house" (one), "walking" (one), and "found a butterfly" (one). One in each group said they didn't know and one lower-social-class child actually whistled when he was asked what the little boy was doing.

The question using the real referent here was invalid because all of the children answered it correctly with the exception of one lower-social-class child.

There was a small difference between middle-class and lower-social-class with regard to the picture question--three more middle-class children answered it correctly.

There were three responses which were irrelevant--"putting up a house," "walking" and "found a butterfly" and they were all three lower-social-class responses.

Looking

The word which the investigator was concerned with here was looking and for the concrete question the investigator looked into a mirror after asking "What am I doing?" For the picture question a picture of a girl looking in a mirror was used. (See Figure 13.)

Of the 24 middle-class children, 19 answered the question concerning the concrete action either with the word "looking" or a phrase containing the word. Of the 24 lower-social-class children in the study, 17 answered it in the previously mentioned way. Some responses referred to the mirror--one middle-class child said "that's a mirror," one

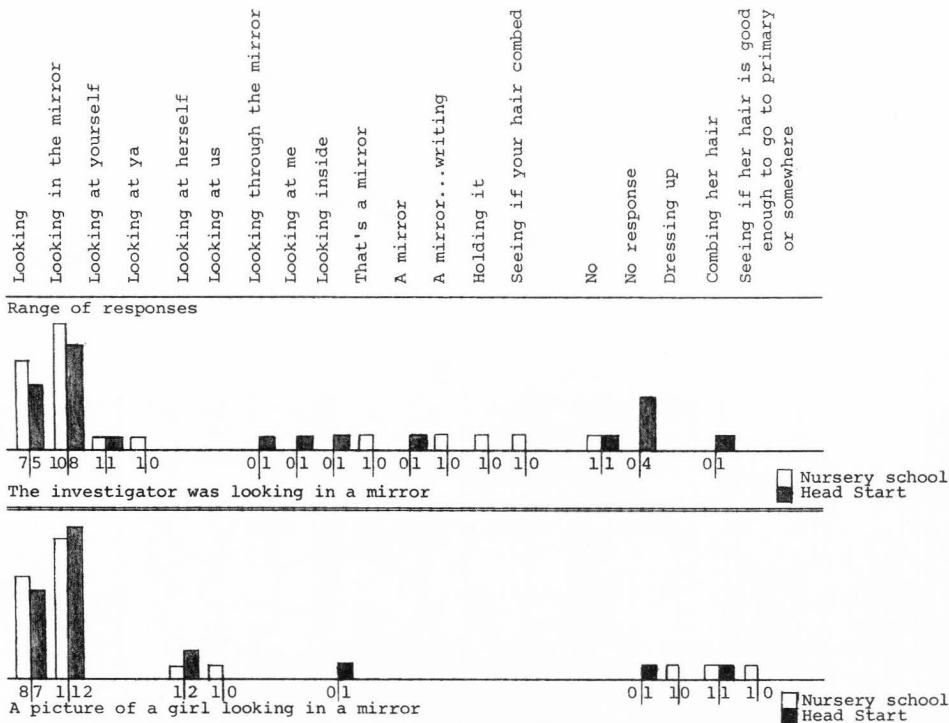


Figure 13. Responses of 20 Head Start and 20 nursery school children to the questions, "What am I doing?" (#6) and "What is this little girl doing?" (#19) (looking).

lower-social-class child said "a mirror," and one middle-class child said "a mirror . . . writing." Another middle-class child said "holding it" and one said "seeing if your hair is combed." "Combing her hair" was the response of one lower-social-class child. One child in each group said "no" and four lower-social-class children made no response at all.

In reference to the picture question, 21 middle-class and 22 lower-social-class made responses using the word "looking" or a phrase containing the word "looking." One nursery school child said "dressing up," one in each group said "combing her hair," and one middle-class child said "seeing if her hair is good enough to go to primary or somewhere." No response was made by one Head Start child.

Here again the majority of children were able to respond in the correct way. In the case of the concrete action there were two more middle-class able to answer the question correctly and in the case of the picture there was one more lower-social-class child able to answer it correctly. In comparing the picture and the actual action there were two more middle-class able to identify the picture and five more lower-social-class able to identify the picture; therefore, it appears that this action was easier for both groups to identify in the picture.

Another thing to notice on this set of questions is that there were as many middle-class children as lower-social-class children on both questions who made responses which were incorrect.

Perhaps the fact that there is not a great spread on these questions but a piling up on one end of the graph indicates that these questions are not very valid.

Marching

This set of questions was concerned with the word "marching" and for the concrete action the investigator marched and asked the children, "What am I doing?" The picture used was a group of children with drums and other equipment who were marching in a row. (See Figure 14.)

Twenty-one of the 24 children in the middle-class group answered the question referring to the actual action correctly, while 16 of the lower-social-class children did so. One middle-class child said, "playing cowboys," and one said "stamping your feet." "Walking" was the response of one middle-class child and four lower-class children. There were two lower-social-class children who said they did not know and two who made no response.

On the question referring to the picture of the children marching only five middle-class children and three lower-class children responded with "marching." Of the five middle-class responses, one said "marching in a parade." Two other middle-class children made responses referring to a parade. Five of the middle-class and four of the lower-social-class made responses which referred to playing drums. Five of the middle-class made references to music--two of them said, "playing band," one said "playing music," and one said "playing songs." Several of the responses referred to a soldier theme. Four middle-class and one lower-social-class child said "playing army," one middle-class said "playing soldiers," one middle-class said "playing like they're soldiers," and one lower-social-class said "playing army man." One lower-social-class response was "goin' huntin'," one said "huntin' for something" and one said "hunting." "Trutching" was the response of one lower-social-class child and another said "playing." Other

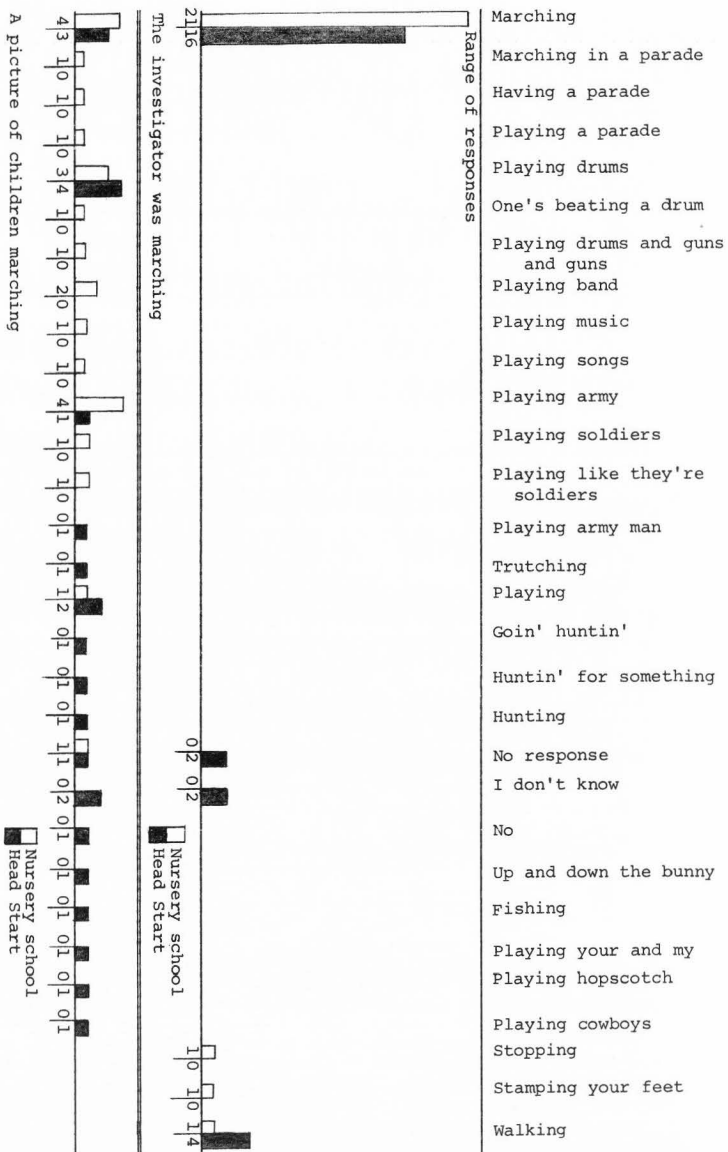


Figure 14. Responses of 20 Head Start and 20 nursery school children to the questions, "What am I doing?" (#35) and "What are these children doing?" (#12) (marching).

lower-social-class responses included "up and down the bunny" (one), "fishing" (one), "playing yours and my" (one), "playing hopscotch" (one), "playing cowboys" (one). One in each class made no response, two lower-social-class children said "I don't know," and one lower-social-class child said "no."

It is evident that the majority of children in both classes knew what marching was when the investigator performed this action. Perhaps this is something they do often either in Head Start or in nursery school. It is interesting to notice that one middle-class and four lower-social-class children were not able to differentiate between walking and marching. There were five more middle-class children than lower-social-class children who responded to this question correctly.

The graph for the results of the picture question is interesting especially when compared to the concrete question. The writer was able to see after giving the test that this picture was confusing to the child because of the equipment the children in the picture were holding. With the children in the picture holding guns and playing drums one can easily understand why some of the children made responses referring to parades, guns, music, soldiers, and hunting. On this question five middle-class and three lower-social-class responded correctly while 17 middle-class and nine lower-social-class children made responses referring to parades, guns, music, soldiers or hunting. It is also interesting to note that the responses referring to parades were all made by middle-class children perhaps indicating experience with this. Also the responses referring to the band, music, and songs were made by middle-class children. There were six middle-class responses and two lower-social-class responses referring to soldiers or

the army. It is interesting, too, to note that the responses referring to hunting were all made by lower-social-class children, suggesting that to these children guns are associated with hunting and perhaps some of these children have already had experience going hunting with their fathers.

Again, the irrelevant responses such as "trutching," "playing your and my," "fishing," "up and down the bunny," and "playing hopscotch" are all lower-social-class responses.

Whispering

The word used in this set of questions was whispering and for the concrete response the investigator whispered in the child's ear and asked him what she was doing. For the picture question, a picture of a child whispering into another child's ear was shown to the child. (See Figure 15.)

Of the 24 middle-class children, 14 of them responded with "Whispering" or some form of the word whisper. Seven of the lower-social-class children responded in this way. Several of the children used phrases containing the word "telling" or "told" such as "telling me a secret." Six of the nursery school children and seven of the lower-social-class children responded in this way. One middle-class and two lower-social-class children said "You said, 'What am I doing?'" One middle-class child said "blowing in my ear." Other lower-social-class responses included "talk to me" (one), and "ring a bell" (one). One middle-class child and four lower-social-class children made no response and one middle-class and two lower-class children said "I don't know."

On the picture question, ten of the middle-class and four of the lower-social-class made responses using some form of the word "whisper."

- Whispering
 Whispered in my ear
 Whispered
 Whispered to his little sister
 Whispering something
 Whispering in the girl's ear
 Telling a secret
 Telling her/him/me a secret
 Telled a secret
 Telling the other boy a secret
 Telling her/him/me something
 Telling his sister a secret
 Telling a secret in the girl's ear
 Tell a secret
 Told me something
 Telling that girl something
 Telling the little boy/girl something
 You said, "What am I doing?"
 Blowing in my ear
 Talk to me
 Playing with him
 Talking
 Ring a bell
 No
 No response
 I don't know

Range of responses

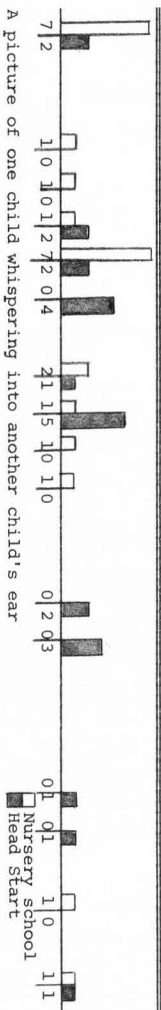
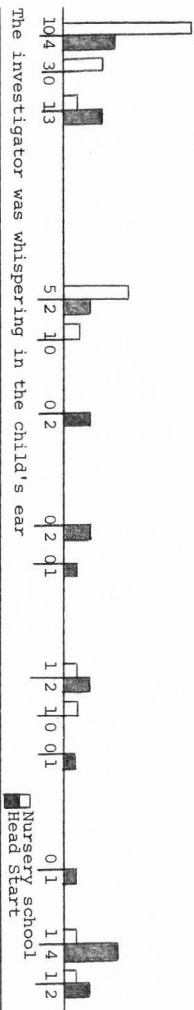


Figure 15. Responses of 20 Head Start and 20 nursery school children to the questions, "What am I doing?" (#28) and "What is this little boy doing?" (#2) (whispering).

Again a number of children in both groups used phrases containing the words "telling," "tell" or "told"--12 of the middle-class children and 17 of the lower-social-class children responded in this way. One lower-social-class child said "playing with him," and one said "talking." "No" was the reply of one middle-class child and one in each group said they did not know.

In analyzing the responses to this question it was again difficult to differentiate a right from a wrong answer. However, seven more of the middle-class children responded to the concrete action using some form of the word "whisper" and six more of the middle-class children responded in this way on the picture question. It appears that the word "whisper" or some form of it is more familiar to the Middle-class children while the lower-social-class child more often used the word "telling" or some form of "tell." On the concrete question there was one more lower-social-class child compared to middle-class children that made the previously mentioned response. However, on the picture question there were more in each group that responded using some form of "tell" but there were five more lower-social-class children than middle-class children.

As the investigator whispered into the child's ear for the concrete action, in each case she whispered, "What am I doing?" so this is why one middle-class and two lower-social-class children made the response, "You said, 'What am I doing?'"

The lower-social-class child who said "ring a bell" in response to the concrete question also said "ringing a bell" for both questions referring to the word listening. The reason for this is unknown to the writer.

In contrasting the picture and the concrete question one can see that more children in both groups used some form of the word "whisper" on the concrete action question (four more middle-class children and three more lower-social-class children). However, when looking at the word "tell" or some form of it, there were more children in both groups who used this on the picture question compared to the concrete question (six more middle-class and ten more lower-social-class children).

Summary of findings in action group

It was found in this section of questions referring to action words that there were more children than in the previous sections in both groups who responded with the correct response or one similar to the correct one. However, out of the ten questions on all but one, the middle-class children answered it correctly more often than the lower-social-class children; the one exception was on the picture question in reference to the word "looking" and there was one more lower-social-class child than middle-class child who answered this correctly.

With regard to the comparison between picture and action it appears to depend on the action and the pictures in this section. Particularly in this section, when the child looked at the picture and the investigator asked what the child or children were doing, it was hard for both groups of children to differentiate exactly what they were doing. For example, a child who may be marching may also be playing at the same time and other objects in the picture often tended to mislead him.

Another problem that the investigator met was determining if some words really do mean the same thing such as hearing and listening.

Therefore, the results to this section are not as clear but there can be seen some trends. One can again see that the lower-social-class child more often than the middle-class child makes irrelevant responses or responses which are not related to the picture or action in any way.

It is interesting to note that John and Goldstein (1964) found in their study that lower-social-class children had a high percentage of failure with action words and they suggested that the reason for this lies in the fact that children from lower-class homes have relatively little opportunity to engage in active dialogue when learning labels. They state that some words, like many action words, have a lower stability of the word-referent relationship and therefore require a greater amount of "corrective feedback."

Since a majority of children in both groups answered the questions in this section correctly this suggests that these children are receiving "corrective feedback" when looking at action words--the nursery school children at home and at nursery school and the Head Start children most probably only in the Head Start program.

Patterns and Content of Responses in Positional Group

Under

The word used in this set of questions was "under" and for the real or concrete question the investigator had two blocks and asked the child to look at the yellow one and then tell her where she put the green one. For the picture question the investigator used a picture of a table with a ball under it. (See Figure 16.)

Out of the 24 nursery school children six said "under" or a phrase containing it and two used underneath or a phrase containing it. Of

Range of responses

Under
 Under the yellow one
 Under the table
 Underneath
 Underneath the bottom
 Underneath the table
 Bottom
 On the bottom
 At the bottom
 Yellow on top, green
 on the bottom
 Down on the bottom
 Down
 On top of the yellow
 one
 Top in there
 No
 No response
 I don't know
 Right here
 Right there
 On the stand
 On top
 I see where you put it
 In the middle
 On the table
 On
 Inside
 By the table
 In the table



Figure 16. Responses of 20 Head Start and 20 nursery school children to the questions, "Look at the yellow block and tell me where I put the green one," (#14) and "Where is the Ball?" (#39) (under).

the 24 lower-social-class children four either said "under" or a phrase containing it. Ten middle-class and 13 lower-social-class said "bottom" or a phrase containing it. Other nursery school responses included "yellow on top, green on the bottom" (one), "down on the bottom" (one), "down" (one), "on top of the yellow one" (one). Other Head Start responses included "top in there" (one), "right here" (one), "on the stand" (one), "on top" (two), "I see where you put it" (one). Two middle-class said "no," one lower-social-class said "I don't know" and one said "right here." One Head Start made no response at all.

With reference to the picture question, 20 of the middle-class and 14 of the lower-social-class either said "under" or a phrase containing it. Two in each group used the word "underneath" either alone or in a phrase. Two of the middle-class said "right there." Other lower-social-class responses included "at the bottom" (one), "in the middle" (one), "on the table" (one), "on" (one), "inside" (one), "by the table" (one), "in the table" (one), and one lower-social-class child made no response.

Again this was a hard question to determine if a child's answer was right or wrong. For example, "on the bottom" would seem as correct an answer as "under." However, four more middle-class children than lower-social-class children responded to the concrete question using some form of "under." The majority of the children in both groups responded to the concrete question using the word "bottom" either alone or in a phrase (12 middle-class and 13 lower-social-class children responded using the word "bottom"). There were obviously some children who had the words "top" and "bottom" confused.

In regards to the picture question it can be seen by observing the graph that the majority of the children used "under" either alone or in a phrase. However, it is interesting to notice that the middle-class children more often used under in a phrase whereas the lower-social-class children more often just said "under." There were six more middle-class who used some form of "under" on the picture question. All but two of the middle-class answered this question using some form of "under." There were several lower-social-class responses to the picture question which indicated misuse of positional words such as "in the middle," "inside," and "in the table."

In comparing the picture and the concrete questions one can see that both groups of children responded to the picture question more often than the concrete object with the word "under" or some form of it. However, more children in both groups used the word "bottom" or some phrase containing it to describe where the green block was in comparison with the yellow one. Perhaps the blocks being one on top of another did suggest to the child the word "bottom" instead of "under." There were more lower-social-class responses, particularly on the picture question which used improper prepositions.

In or inside

The words these two questions referred to were in or inside and for the concrete question the investigator asked the child to look at the orange block and then tell her where she put the blue one. For the picture question a picture of a wagon with a block in it was shown to the child. (See Figure 17.)

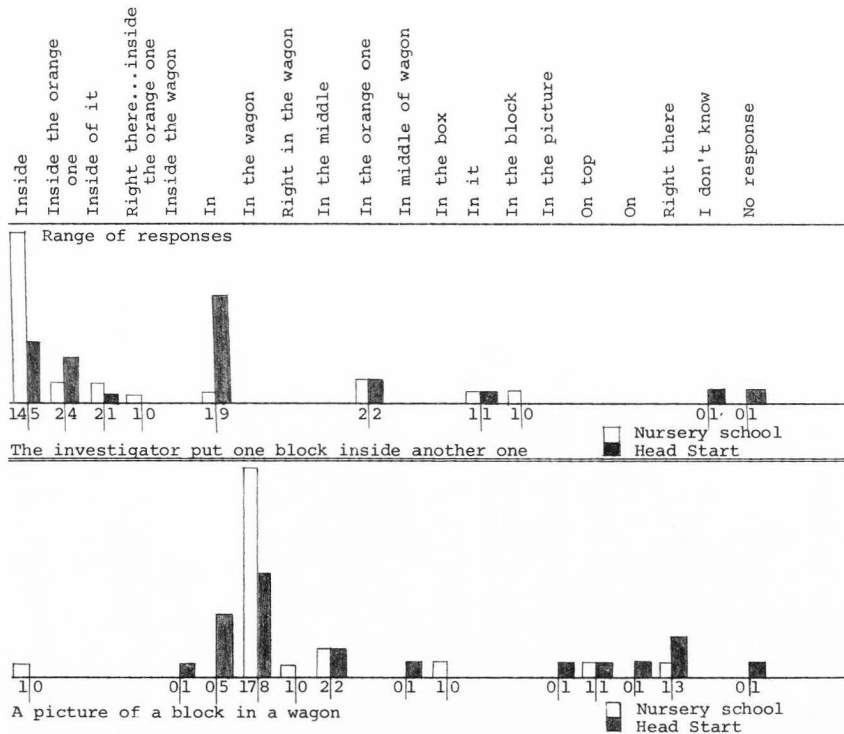


Figure 17. Responses of 20 Head Start and 20 nursery school children to the questions, "Look at the orange block and tell me where I put the blue one," (#25) and "Where is the block?" (#8) (in or inside).

In regards to the concrete question, all 24 of the nursery school children responded using either "in" or "inside" or a phrase containing one of the two of these words. Twenty-two of the Head Start children responded in the previously mentioned way. One Head Start child said he didn't know and one made no response.

In reference to the picture question, 22 middle-class and 18 lower-social-class children answered it using the word "in" or "inside" or a phrase using one of the two words. One middle-class and one lower-social-class said "on top" and one lower-social-class said "on." "Right there" was the response of the one middle-class and three lower-social-class children and one lower-social-class child made no response.

At first glance at the above figures one may think this set of questions to be uninteresting but there are some interesting patterns. For example, it is interesting to note that on the concrete question more middle-class children (nine more) than lower-social-class children responded with "inside" but on the other hand, more lower-social-class children (eight more) than middle-class responded with "in." In looking at the picture question one can see that the majority of middle-class children responded with the phrase-"in the wagon"--there were nine more middle-class children than lower-social-class responding in this way. There were five lower-social-class children who responded to the picture with the word "in" and no middle-class children responded in this way. These patterns support Bernstein's (1961) theory that the lower-social-class use a more simple form of language while the middle-class are more prone to use more elaborated language.

There were two more middle-class than lower-social-class who responded correctly on the concrete item. There were four more middle-class children compared to lower-social-class who were able to respond to the picture question using "in" or "inside" or a phrase containing one of the two.

In comparing the picture and the concrete question there were two more middle-class children who responded to the concrete question correctly compared to the picture question, and there were five more lower-social-class who did so. Also in comparing picture and concrete questions more children in both groups used the word "inside" on the concrete question whereas on the picture question more in both groups used the word "in." The reason for this pattern is unknown.

Next or beside

The words referred to in this set of questions were next or beside. For the concrete question the investigator asked the child to look at the green block and then tell her where she put the blue one. A picture of one child beside or next to another one was used for the picture question. (See Figure 18)

In reference to the concrete question three middle-class and three lower-social-class children responded with a phrase containing the word "beside." Also three in each group replied with a phrase containing the word "side." Two nursery school children responded with "next to it," and one lower-social-class child said "to the next one." Several of the children in both groups used phrases containing the word "by." Nine of the middle-class and six of the lower-social-class children used phrases with this word.

Range of responses

Beside the green one/Beside the (little) boy
On/by the side

Next to it/him

On the left side

By it

By the green one

Right by the nother one

By a big brother/by the (big) boy

Down by the little boy

By the man

Right together

To the next one

On the end

With the big boy

Right there

No response

I don't know

Begainst it

In the middle

With

Behind the green one/behind the boy

In front of it

Inside

On the bottom

On the outside

Down there

Right by

On top of the green block

Walking

On the floor

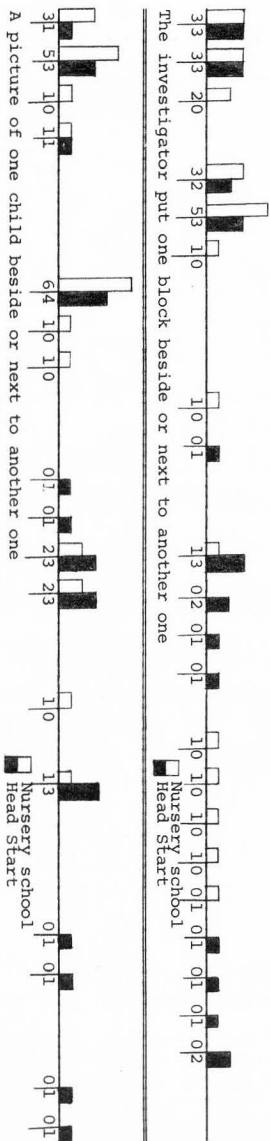


Figure 18. Responses of 20 Head Start and 20 nursery school children to the questions, "Look at the green block and tell me where I put the blue one," (#10) and "Look at these children. Where is the boy?" (#34) (beside or next).

Other middle-class responses included "right together" (one), "right there" (one), "with" (one), "behind the green one" (one), "in front of it" (one), "inside" (one), and "on the bottom" (one). Other lower-social-class responses included "right together" (three), "be-against it" (one), "on the outside" (one), "down there" (one), "on top of the green block" (two). Also two lower-social-class children made no response, and one said "I don't know."

Referring to the picture question, three middle-class and one lower-social-class used a phrase containing "beside." Six middle-class and four lower-social-class children used phrases containing "side" such as "on the side" or "by the side." One middle-class said "next to him." Again several in both groups used the word "by"--eight middle-class and four lower-social-class children used this word in a phrase. Other middle-class responses included: "right there" (two), "in the middle" (one), and "behind the boy" (one). Lower-social-class responses included "on the end" (one), "with the big boy" (one), "right there" (three), "behind the boy" (three), "on the outside" (one), "down there" (one), "walking" (one), and "on the floor" (one). Also, two middle-class and three lower-social-class children made no response.

This set of questions is again difficult to analyze. Are "be-side," "side," "next," and "by" all semantically the same?

In looking at the concrete question there were two more middle-class children who responded to this question using either "beside" or "next." There were 17 middle-class and 13 lower-social-class children who made responses using "beside," "next," "by," or "side."

On the picture question there were five more middle-class children using either the word "beside" or "next" in their responses. Again

there were 18 middle-class and nine lower-social-class children who made responses using the following words: "beside," "next," "by," or "side."

In looking at the above figures one can see that whichever words you decide to use as the correct ones there were more middle-class than lower-social-class children who used these words.

In comparing the picture and concrete questions when using the words "beside," "next," "by," and "side" as acceptable answers there was one more middle-class child able to respond to the picture using one of these words but there were four more lower-social-class able to respond to the concrete item correctly compared to the picture question.

There was some indication, especially on the concrete question, of children using positional words that would not fit the situation such as "middle," "with," "behind," "in front," "inside," "bottom," and "on top." There were five such remarks by middle-class children on the concrete question but only two on the picture question. There were six such remarks by lower-social-class children on the concrete question and five on the picture question. There were also two other lower-social-class replies which seem to the author to be irrelevant--"walking" and "one the floor." "Begainst it," a lower-social-class remark for the concrete question, perhaps stems from beside and against but this is only a conjecture.

On

This set of questions referred to the word on and for the concrete question the child was asked to look at a blue block and then tell the investigator where she put the orange one. A picture of a doll on a shelf was used for the picture question. (See Figure 19)

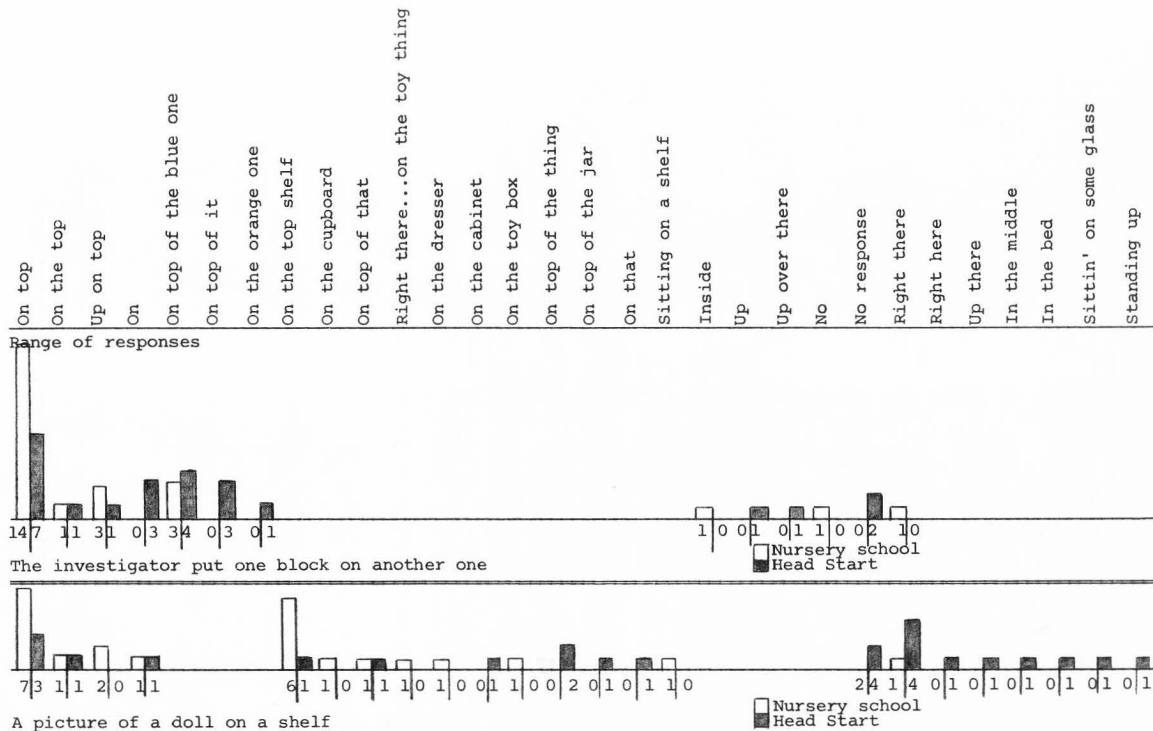


Figure 19. Responses of 20 Head Start and 20 nursery school children to the questions, "Look at the blue and tell me where I put the orange one," (#3) and "Where is the doll?" (#29) (on).

Out of the 24 nursery school children, 21 of them used the word "on" in some phrase, the most common being "on top." Twenty of the lower-social-class used "on" alone or in some phrase. Other responses to the concrete question included "inside" (one middle-class), "up" (one lower-social-class), "up over there" (one lower-social-class), "right there" (one middle-class), and "no" (one middle-class). Two lower-class made no response at all.

On the picture question 23 nursery school and 13 Head Start used the word "on" either alone or in a phrase to answer the question. One middle-class and four lower-social-class children said "right there" and other lower-social-class responses included: "right here" (one), "up there" (one), "in the middle" (one), "in the bed" (one), and "standing up" (one). Two lower-social-class children made no response.

It is evident that the majority of children, particularly the middle-class responded to these questions using the word "on." There were more middle-class who responded correctly to the concrete question compared to the lower-social-class children. There were ten more middle-class children who responded correctly to the picture question when compared with lower-social-class children. An interesting comparison to draw now is between the picture and concrete item; two more middle-class children responded to the picture item correctly while on the other hand, seven more lower-social-class children responded correctly to the concrete item when compared to the picture question.

The interesting pattern here is the number of lower-social-class children (nine) making incorrect responses to the picture question. Perhaps this suggests that because the picture had more detail on it,

such as other toys on the lower shelves, it was more difficult for the lower-social-class children to make the correct response.

There were three lower-social-class and no middle-class children who responded to the concrete item with "on" perhaps again suggesting the simple form of their language.

It is interesting to notice what some of the children labeled the toy shelf. Some middle-class children called it a "cupboard," "that," "toy thing," "dresser," and "toy box." Some of the lower-social-class labels for it were "cabinet," "thing," "jar," and "that."

The large number of children responding correctly in each group on both questions indicates that this is a word which is a part of most children's vocabularies at this age.

Around

For this set of questions the word "around" was the investigator's focus. The investigator asked the child to look at a green block and then asked the child where she placed a yellow one. For the picture question a picture of a fish with water all around it was used. (See Figure 20.)

In response to the concrete question none of the children in either group used the word "around" to describe where the yellow block was placed. The majority of children in both groups used "on top" either alone or in a phrase to describe where the block was placed. Thirteen middle-class and ten lower-social-class children used the previously mentioned phrase. One in each group said "over it" and one in each group said "under it." Four middle-class and one lower-social-class said "outside" and one middle-class said "green one inside, yellow on top." "Green block is underside" was the response of one nursery

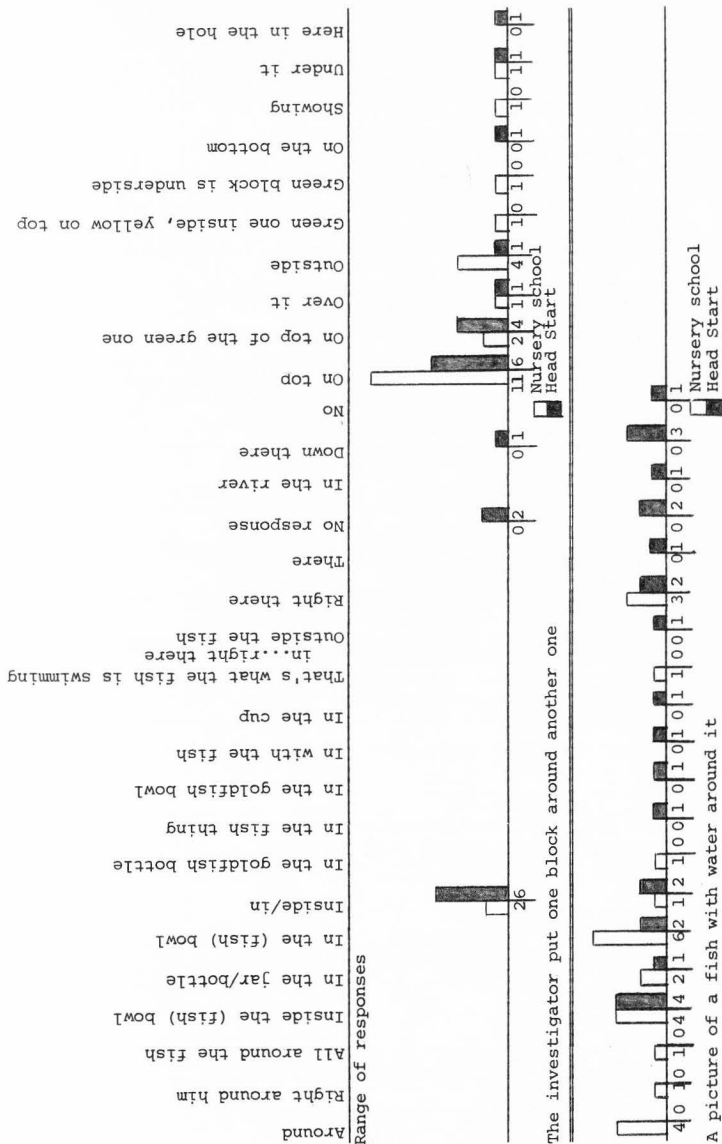


Figure 20. Responses of 20 Head Start and 20 nursery school children to the questions, "Look at the green block and tell me where I put the yellow one," (#36) and "Look at the fish. Tell me where the water is." (#18) (around).

school child. "On the bottom" was the response of one Head Start child and one said "here in the hole." One middle-class said "showing," two middle-class and six lower-social-class children either said "in," or "inside." Two lower-social-class children made no response and one said "down there."

On the picture question, six middle-class children and no lower-social-class children used the word "around" or used it in a phrase. Several children in both groups used the word "in" or "inside" or used one of the two of them in a phrase; 14 of the middle-class and 13 lower-social-class children made this type of response. One middle-class child said "That's what the fish is swimming in . . . right there." Three middle-class said "right there" and two lower-social-class children replied with this same response. Other lower-social-class responses included: "outside the fish" (one), "there" (one), "in the river" (one), "down there" (three), and "no" (one). Two lower-social-class children made no response at all.

One can see that evidently the concrete question here was not valid due to the fact that none of the children gave the correct response. It is evident that the most common response for both groups for the concrete question involved "on." Apparently to see the investigator place one block around another suggests more often to the child placing one block "on" another one.

The middle-class response containing the word "underside" is an interesting combination. Also this child responded as to where the green block was but the question was directed to where the yellow block was. A few of the children responded to the opposite part of the question that was being asked; answers such as "on the bottom," and "under

it" suggest this. The middle-class response "showing" is indeed interesting and again suggests the way this child was looking at the question.

On the picture question, there were more middle-class children responding with the word "around" but a small majority (six). Although the investigator pointed to the fish and then asked the child where the water was, hoping that he would see it in relation to the fish, he more often saw it in relation to the fishbowl or jar and the most common answer here involved the word "in" or "inside." However, again there were more lower-social-class responses than middle-class responses that were completely incorrect such as "in the river" or "down there." One interesting lower-social-class response was "outside the fish" suggesting another way of looking at the question.

When comparing picture and concrete questions for this set, one can see that the response the writer was looking for was only given by the middle-class group in the case of the picture question.

It is evident that this set of questions was somewhat confusing to the child and that the majority of both groups did not see what the investigator was trying to portray in either the picture or the concrete items. The investigator feels that perhaps a more appropriate picture and concrete item should have been chosen for this set of questions. Particularly the concrete item should have been round with something being placed around it.

Summary of findings in positional group

It was felt by the author that this was a particularly difficult area to test in labeling because in most cases there was not one single,

suitable label, but more than one or a phrase which may have meant the same thing.

It was also felt, as the results of the concrete questions in this section were analyzed, that the colored blocks should not have been used because the child's development in color concept would affect his ability to answer these questions. For example instead of saying, "Look at the yellow block and tell me where I put the green one," it would have been better to say, "Look at this block and tell me where I put the next one." Perhaps this was the reason some of the children seemed confused and their answers appeared to be in reference to the opposite block being referred to. For example, on question number 25, referring to the word "in" or "inside," a few children answered it "on" or "on top" which was where the orange block was but the question asked where the blue one was.

Also, as mentioned previously, the questions concerning the word "around" were invalid and not clear to the child even if the label "around" may have been.

In comparing the middle-class and lower-social-class children in this section the middle-class, on both concrete and picture questions, had more children responding correctly. The one exception was the concrete question referring to "around" and here neither group had any correct responses. It can be noted in this section too that there were more lower-social-class responses which were completely incorrect or used labels which did not fit the question at all.

In comparing the picture and concrete questions, the middle-class children, four out of five times, had more correct responses on the picture questions when comparing it to the concrete questions. On the

other hand, the lower-social-class children, three out of four times, had more children responding correctly to the concrete object as compared to the picture item (on the set pertaining to the word "around" they had no correct responses on either question).

This is an interesting pattern with the middle-class being able to give the correct label more often when the referent was a picture and the lower-social-class being able to give the correct label more often when the referent was concrete. The reason for the middle-class pattern is unknown but perhaps the reason for the lower-social-class pattern is due to their greater difficulty with picture items as pointed out by Otto (1962).

SUMMARY, CONCLUSIONS, AND DISCUSSION

Summary

During the past decade there has been an increased amount of research done in the area of understanding the disadvantaged child and his problems. The results of this research have first influenced the discovery that the disadvantaged child can be helped; that most of his problems are due to environmental conditions and not poor mental capacities. The results have also influenced many changes in methods of educating these children, and have added to an increased awareness of the responsibility of breaking the cycle of poverty through education--education which begins in the preschool years.

One of the areas that has been found to be most crippling to the lower-social-class child has been that of language. This research was undertaken to study the differences in language labeling of Head Start or lower-social-class children and nursery school or middle-class children. A second objective included an investigation of the differences in the two classes in their ability to label concrete objects and actions compared with pictures of the same things or actions.

To accomplish these two objectives, 24 Head Start and 24 nursery school children, matched in sex and as closely as possible in age, were used as the sample. These 48 children were all given a verbal labeling test which included questions in four areas: foods, animals, action, and positional words. For each of these areas there were five items of a real or concrete nature and the same five items in the form of a picture question; therefore, there were 40 questions on the test.

After the data was collected each question was analyzed. A graph for each question was prepared so that the differences between the two classes could be seen and also the responses given to each question. Also, the graphs for the matching concrete question and picture question were put on the same page so that this comparison could be made.

On the basis of the above procedures several major findings were discussed. It was first found that there is a difference in the language labeling of the lower-social-class child compared to the language labeling of the middle-class child in the four labeling areas studied. The middle-class child responded with the correct label more often than the lower-social-class child. Also when responding incorrectly, the middle-class child more often than the lower-social-class child made a response that more closely resembled the correct response either in appearance or semantically. The lower-social-class child more often than the middle-class child made responses which were inapplicable.

The other major finding was that there is no difference among children within each social class in the labeling of real things or actions compared to pictures of the same things. In the majority of the areas tested there were no patterns established in the labeling of real things and pictures of the same things. At times there were more children in both groups able to identify the referent in the concrete question and other times both groups were able to better identify it through the picture. In the area of the positional words, however, there was a difference between the two social class groups. In this group, the middle-class children had more correct responses on the picture question while the lower-social-class children had more correct responses on the concrete questions. Therefore, in only one area of this study did the

findings support Otto's (1962) study that an actual object will more often elicit a correct response than a picture and this only applied to the lower-social-class group on one set of questions.

The importance of helping the child establish a relationship between the word and the referent can be seen from the results of this study on labeling. This is supported by John and Goldstein's (1964) study. Continual experience with language and feedback from adults are necessary factors for the child to develop in his ability to use and understand language.

Conclusions

Any conclusions reached in this study must be considered tentative on the basis of the small sample of children participating in this study. These conclusions must be viewed as applicable to the present study and children involved in this particular sample. The conclusions can be drawn from this study that the language labeling in the areas of food, animals, actions, and positional words is different between children in the lower-social-class and children in the middle-class. It also appears possible to conclude that there is no difference among children within the social classes in their ability to label concrete items compared with pictures of the same items. However, further experimentation with more children will be needed before definite conclusions can be made.

Discussion

The investigator is including this section due to the fact that many of the most interesting and valuable patterns and observations

found in this study were not expected and not a part of the hypotheses. It is included to describe some of the investigators own feelings and observations which she feels are important.

One of the most interesting observations made was the evidence of the necessity of a bond between the word and the referent or object. This bond is evidently established not only with experience with the referent, but also with experience with the word that is to be attached to the referent. Thus, for a word to have meaning the child must understand what it represents. An example of this observation occurred when a nursery school child was shown the picture of the grapefruit and also when she was shown the concrete grapefruit. When the investigator asked her what it was, in both cases she very confidently said "vitamin C." The investigator felt that she had actually had experience with the referent but a bond had not been established between the referent and the correct word, therefore not giving meaning to the word "grapefruit." Perhaps the mother of this child had placed grapefruit in front of her and said, "Here, eat your vitamin C." This example also suggests the correlation of language and concept development.

Another interesting observation was that it appeared to the writer that middle-class children more often use color and/or size to make distinctions and perhaps tell them what the picture or referent is not. For example, many of the lower-social-class children responded to the grapefruit question with the response "orange" while few of the middle-class children did so, suggesting that the middle-class children use color and/or size to tell them that the grapefruit is not an orange.

The investigator also found that the lower-social-class responses were more often spread out with responses which, in many cases, did not

resemble either semantically or in appearance the correct response. Middle-class children more often than lower-social-class children, when responding incorrectly, made responses which resembled the correct response either semantically or in appearance. For example, on the question referring to the goat, more middle-class children than lower-social-class children responding incorrectly, responded with answers such as "sheep" or "lamb." Also, lower-social-class children more often made responses referring to parts of the referent. For example, when shown the picture and the concrete beet, even though the investigator pointed directly to the beet, several lower-social-class children made responses referring to the leaves or something similar.

The investigator also observed in giving the verbal test that lower-social-class children more often relied on a nonverbal type of response such as gestures. Examples of these would include the child pointing to the correct response or shaking his head instead of saying "no." When a child made this type of response the investigator would say, "Can you tell me . . .?"

It was also observed by the investigator that the middle-class child more often responded using phrases or sentences rather than a single word. This was particularly evident in the positional group of questions. Therefore, there appeared to be a difference in the structural or grammatical aspect of these children's language development.

Another interesting observation occurred with several lower-social-class children and one middle-class child. These children would give the same answer to several questions in a particular group. For example, in the food group a lower-social-class child several times responded with "parrot." Another example was a lower-social-class child

who responded to several questions in the animal group with "cheet."
Also a middle-class child responded in the animal group several times with the word "hopper."

These were some of the writer's observations which were most interesting. This study provided a great deal of material which was not anticipated by the writer. The study of language is involved, complex, and cannot be simplified. The writer was surprised at the various responses that would be given to one question.

Suggestions for Further Research and Study

Suggestions for further research and study in language development:

1. The lower-social-class and middle-class children's sentence structure needs to be thoroughly studied and compared. It was beyond the scope of this study, but a future study could utilize the data from the present study and analyze and compare the difference between the classes in their use of one-word answers compared to phrase or sentence answers.
2. A future study utilizing the data from the tapes made in this study could compare the difference in the two classes in nonverbal responses (i.e. pointing the finger or nodding the head) and verbal responses.
3. Comparison between the sexes in their labeling responses and other aspects of language development needs to be investigated.
4. Comparison between Negro and caucasian children in their language labeling and other language abilities needs to be investigated. The responses within the lower-social-class in this study could be used for such a purpose.

5. The effects of bilingualism on different aspects of children's language such as labeling or sentence structure needs to be further studied.

6. Studies to investigate the effect on language development of experience in Head Start for lower-social-class children and experience in nursery school for middle-class children could be made through before-after studies.

Studies such as those suggested above could bring further understanding to this complex process of language development and particularly to understanding the variables which effect the acquisition of language.

CHILDREN PARTICIPATING IN THE STUDY

Nursery School Girls

| | |
|----------|------|
| Charlene | 4-7* |
| Barbara | 4-7 |
| Denise | 4-8 |
| Lori Ann | 4-8 |
| Dixie | 4-8 |
| Julianne | 4-8 |
| Alicia | 4-8 |
| Ann | 4-10 |
| Melanie | 4-11 |
| Robin | 4-11 |
| Robyn | 4-11 |
| Alaine | 5-1 |

Head Start Girls

| | |
|-----------------------|------|
| Marlene (Caucasian) | 4-7 |
| Marge (Caucasian) | 4-7 |
| Shelly (Caucasian) | 4-9 |
| Eleatha (Negro) | 4-8 |
| Kimberlee (Caucasian) | 4-8 |
| Liza (Negro) | 4-8 |
| Tara (Negro) | 4-8 |
| Tyra (Negro) | 4-10 |
| Nodee (Caucasian) | 4-11 |
| Rochelle (Negro) | 5-0 |
| Karen (Caucasian) | 4-10 |
| Joyce (Negro) | 5-2 |

Nursery School Boys

| | |
|---------|------|
| Douglas | 4-6 |
| Scott | 4-6 |
| Tony | 4-8 |
| Ned | 4-8 |
| Caldon | 4-9 |
| Scott | 4-9 |
| Cory | 4-9 |
| Layne | 4-11 |
| Arthur | 4-11 |

Head Start Boys

| | |
|---------------------|------|
| Kenneth (Caucasian) | 4-6 |
| Jeffery (Negro) | 4-6 |
| Bobby (Negro) | 4-7 |
| Shawn (Caucasian) | 4-8 |
| Jeffery (Negro) | 4-9 |
| Waddell (Negro) | 4-10 |
| David (Negro) | 4-9 |
| John (Caucasian) | 4-11 |
| Duane (Caucasian) | 4-11 |

| | | | |
|-------------|------|---------------------|-----|
| Dain | 4-11 | Anthony (Caucasian) | 5-0 |
| Christopher | 5-2 | John (Negro) | 5-2 |
| Peter | 5-5 | Donel (Caucasian) | 5-5 |

* Age in years and months

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