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VERBAL MEMORY OF PRESCHOOL INDIAN AND
NON/INDIAN HEADSTART CHILDREN

by

Karen L. Swenson Carter

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

of

MASTER OF SCIENCE

in

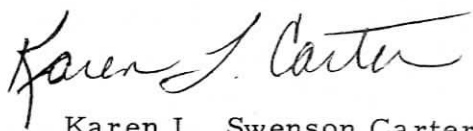
Family and Human Development

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Karen L. Swenson Carter

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ABSTRACT

Verbal Memory of Preschool Indian and
Non-Indian Head Start Children

by

Karen L. Swenson Carter, Master of Science

Utah State University, 1976

Major Professor: Dr. Carroll Lambert
Department: Family and Human Development

The purpose of this study was to test the hypotheses 1) there is a significant difference between scores of Head Start children on the Uintah and Ouray Indian Reservation in Utah and the norms of the Verbal Memory Test from the McCarthy Scales of Children's Abilities; 2) there will not be an association between being Indian or non-Indian; 3) there will be an association between teaching styles and the children's performance on the language test. The T test was used to analyze all of the data. The experimental sample scored lower, but not significantly lower than the standardized norms. There was no difference between Indians and non-Indians. The sample (N = 46 children; 30 boys and 16 girls) was taken from four classrooms which were compared with one another. There was a significant difference between classroom 1 and classroom 4 at the .01 level, supporting the hypothesis that there will be an association between teaching styles and language performance.

When comparing boys to girls within the sample, girls did significantly better at the .02 level.

(82 pages)

INTRODUCTION

The language of the disadvantaged preschool child is adequate in his or her own environment and community. The child verbally communicates with peers and surrounding adults and likewise, they with him. When the child goes to public school, his world changes and his language now may prove to be inadequate in a strange new environment. He finds this corner of his world confusing and perplexing and, it is not unusual for him to meet one failure after another. Deutsch (1965) has shown that for the disadvantaged child there is a "cumulative deficit" from the first grade to the fifth grade which is significantly related to linguistic competence. Language inadequacy was named the culprit for poor academic achievement.

It was thought that preschool education could overcome this deficit. During the 1960's numerous preschool programs designed to meet the needs of the disadvantaged child sprung up across the country. An emphasis on language development as part of the curriculum, was an outstanding feature of such compensatory efforts. Head Start programs played a leading role. One of the goals for Head Start was to develop the child's language so as to increase his cognitive ability and verbal communication (Caldwell, 1968).

Many different approaches were used in the language program. Lambert (1968) suggests that to promote language development, the Head Start teacher should emphasize labeling and encourage conversation. The teacher must take advantage of opportunities for verbal interaction with the child. She provides feedback to clarify and to expand the child's thinking. She is a language model. She includes stories, songs, and finger plays as an integral part of the curriculum. Lambert continually makes references to the teacher's role in language development. The investigator concluded that the teacher is the key to a good language arts program.

Statement of the Problem

At the time of the study the investigator was working part-time with the Fort Duchesne Head Start Program, Fort Duchesne, Utah, as a Child Development Associate trainer and became interested in the language of the disadvantaged child. Language development is a major goal for the Head Start Program. The classroom teacher is provided with guidelines and curriculum on how to initiate and increase language growth. How effective the language program is hinges on the effectiveness of the teacher. If the Head Start teacher has had constructive training to promote language development and if she conscientiously incorporates this curriculum and training into her daily school program, then the performance of children in the Head Start program might be

expected to be comparable to the norms of the Verbal Memory Test of the McCarthy Scales of Children's Abilities (1970). The McCarthy Scales are constructed to be as culture free as possible, and to be representative of the U. S. population as a whole.

The original problem to be investigated, then, was to attempt to determine how the children in a Head Start program compared with the standardized norms for children on a test of language abilities. It turned out, however, that there were so few children in the classrooms selected for study who matched the age groups of the McCarthy language test, that the comparison between the performance of the Head Start children with the standardized norms lacked reliability. The investigator was impressed, however, as she worked with the teachers and children in the program, and as she could see the performance of the children on the McCarthy test, that there was much information available from the language testing program which might be of considerable interest to persons interested in compensatory education.

Statement of the Purpose

It was the purpose of this study to compare the language performance of a group of children in Head Start with the performance norms on a standardized language test, and to investigate the association between the Head Start children's language performance and their being Indian or non-Indian, as well as that between language development and the different teaching styles which prevailed in the classroom.

Hypotheses

1. There will be a significant difference between scores of Head Start children on the Uintah and Ouray Indian Reservation and the norms of the Verbal Memory Test from the McCarthy Scales of Children's Abilities (1970).
2. There will not be an association between being Indian or non-Indian children and their performance on the language test.
3. There will be an association between teaching styles and the children's performance on the language test.

REVIEW OF LITERATURE

Language Theory

Language is a "system of symbols," a pattern of regular utterances of symbols (Lewis, 1968). This use of symbols in communication, as found in Kamil and Radin (1968), is one skill that differentiates man from other animals. Piaget (1962) says there are three levels of symbolization: "sign" (words), "symbol," and "index" (part of an object). Symbol and index, the preverbal levels, should be well developed so that at the sign level words will produce distinct mental pictures. But there is more to language than just symbols.

Language is composed of structures. These structures include phonology, which is the body of phonetics of a language; semantics, which is the true meaning of sentences, and syntax, the pattern of words in sentences and phrases (Katz and Fodor, 1964). Language is also communication between two or more people--one speaks and the other responds. Verbal communication is possible because of the broad range of possibilities of language. Certain rules and generalizations are understood (Lewis, 1968).

Linguistic competence and linguistic performance

Before going further, an explanation should be given of the difference between linguistic competence and linguistic performance. Linguistic competence "represents the knowledge a native speaker of a language must have in order to understand any of the infinitely many grammatical sentences of his language, it represents a native speaker's linguistic institutions" (McNeill, 1966, p. 17). In contrast, linguistic performance demonstrates this competence as one speaks or listens. "Performance operates under constraints of memory, which is finite, and time, which must be kept up with" (McNeill, 1966, p. 17). To speak of language acquisition one speaks of linguistic competence.

Language acquisition

Birth through three-and-one-half years. A child is born with an intrinsic ability to acquire language. He can do more than just learn the language of his parents, for he has the potential to learn any human language that is spoken, be it Russian, English, Hindi, and so on. A child's intrinsic ability to learn a language coupled with his immediate social environment are the two ingredients needed to develop the language process. The first overt signs of vocalizations are found in the young infant's crying. "Vowel-like" and "consonant-like" sounds are heard (Lewis, 1968). The author was particularly interested in her own young child's language acquisition and observed that the young

infant emits certain types of cries when in discomfort, which in turn, are reinforced when the mother figures comes running to satisfy the needs of the infant. The author reinforced her infant's babbling sounds by imitating the babbling sounds made by her infant. The infant soon learns to exercise discrimination as he is socially rewarded when he emits certain types of sounds such as "da, da, da." This reinforcement from adults encourages the infant to repeat the sound. Thus the adult channels the infant's vocalizations into sounds of a particular language.

In a relatively short period the child acquires language. One word sentences make their appearance between the twelfth and eighteenth month. Between the eighteenth and twenty-fourth month, two and three word sentences appear (McNeill, 1966). Brown and Frazer (1963) have called this type of speech "telegraphic" speech because the sentences sound like telegraph messages. "Colleen eat milk," "see cow," and "ride fa," are examples of telegraphic speech. He omits articles, prepositions, auxiliary verbs and inflections on verbs and nouns; inflections such as -ing and plurals. McNeill (1966) theorizes that a child speaks telegraphically to "economize" on time because of his limited memory. He suggests this because the missing words from his speech are ones that adults do not stress while they speak. He writes that ". . . it is more parsimonious to assume that children generate all these sentences according to rules and that the rules and word categories

we can infer from their speech reflect some kind of primitive competence" (McNeill, 1966, p. 24).

The child's two and three word sentences have been divided into two classes of words, pivot and open. "Pivot words occupy a fixed position in the utterance and are few in number; the open class contains many different items from the child's vocabulary" (Herriot, 1968, p. 187). For example, in the sentences "mommy bye-bye," and "Daddy bye-bye," bye-bye is the pivot word and mommy and daddy fall into the open class of words. During each of the later stages of grammatical development, the child's grammar becomes more and more adult-like. Transformational rules are acquired. McNeill (1966) says that the child is forced to develop transformational rules because of the difficulty of remembering the many possible combinations of words; it organizes the "cognitive clutter" that has accumulated; and by the age of three-and-one-half years the basic foundation of adult grammar has been laid.

Parental Influences. Parents do influence the child's language. Parental expansions are not random; they do have an effect on the child's language acquisition. Parents will fill in the child's sentences with inflections, verbs, articles, prepositions, etc. (McNeill, 1966). Brown (1964) suggests that "by expanding the child's words into the nearest sentence appropriate to the circumstances a mother may teach a child to conceive of these circumstances as they are conceived in our communities and to code them as we code them" (p. 58). Bernstein (1961,

1964) has reported that language codes can be separated into two types-- "elaborated" and "restricted." The child who acquires the elaborated code has a mother figure who uses expansions in daily conversation. For example if a child asks "What dat?", the mother might say "That is an apple. Daddy picked it from our apple tree. Do you want to eat a piece of it?". The child not only hears a varied use of grammatical structure but also expands his concept of apple. Whereas the child who only acquires the restrictive code of language, has a mother figure who might answer the same question, "What dat?" with simply the word "apple." Cazden (1968) supports this point of view with her findings that adult expansion of the child's speech markedly influences language performance. McNeill (1966) concurs and says that expansions are a vehicle from which a child learns the structure of language from his immediate social environment. He infers that rapid acquisition is proportionate to parental expansions which is dependent upon parental interest in the child's verbal responses. Constructive conversation between parent and child not only promotes good language performance but also stimulates the use of verbalization during the cognitive process (John and Goldstein, 1964; Hess and Shipman, 1965; and Freeberg and Payne, 1967).

Language Imitation and Recall

Research has been done investigating verbal memory as related to short word tests and sentences. Jenkins (1973) reports that there are several types of word list tests to be given: A "first-order" list includes common unrelated words such as toy, dog, house, etc. A "second-order" list uses words that are related in that one word would be listed after the other as if it were in a sentence, such as cow, is, here, today. The second-order list is easier to remember than the first-order list indicating that when the list is similar to a sentence, the less difficult it is to remember. "What these experiments tell us is that the memory processes can make use of transitional probabilities to aid in the remembering of the material that the subject is trying to remember" (Jenkins, 1973, p. 164). Dr. Neal Johnson, as reported in Jenkins (1973), predicted that when remembering sentences "grammatical boundaries" would cause memory errors; implying that a person remembers by using syntactical units. This is supported by Kagan (1964), who suggests that children, at an early age, learn by these syntactical units which are stressed by adult inflection, loudness and frequency of use. One study (Salzinger, Salzinger, and Hobson, 1966) using preschool children, three to six years old, as subjects has shown that there is a significant positive relationship between age and increased recall of syntactical structured short sentences. The investigators infer that by the time a child is three years old, he responds to

speech through some use of syntactical unit. The preschool child not only does this, but also depends upon these units in storing information for recall. In a later study, Salzinger, Salzinger, and Hobson (1967) tested lowerclass preschool children, ages three through six years. The results were similar to the previous study cited with just a few differences. There was a lower language performance by lower-class children and there was an inflectional difference between lower-class and middle-class performance.

Any parent will tell you that a young child can understand many verbal commands before he can produce them himself; comprehension leads to production. Investigators explored this with three-year-old children and found comprehension is greater than production, ($C \rightarrow P$). However, production proves to be more progressed than comprehension when dealing with imitation in the three-year-old (Fraser, Bellugi, and Brown, 1963). The overall results of this study indicated that imitation was more advanced than comprehension and comprehension was more advanced than production, ($I \rightarrow C \rightarrow P$). A later study (Lovell and Dixon, 1967) tested the above indications, $I \rightarrow C \rightarrow P$, with children ages two years through six years. It was found at all age levels of the subjects that, imitation was more advanced than comprehension and that comprehension was more advanced than production. The results support Piaget's theory of the relationships between language and thought (1962).

Osser, Wang and Zaid (1969) have shown that there is a difference in language performance--to imitate and to comprehend speech--between lower-class black children and middle-class white children averaging age five. Middle-class white children had superior performance even when the investigator compensated for dialect and standard English. In the imitation task, the results indicated that the lower-class black subjects "recoded" the test sentences. These findings do not support those of Fraser et al. (1963) nor those of Lovell and Dixon (1967).

The Disadvantaged Child

Characteristics

The term "disadvantaged" has been used and abused. But what does it mean when we call a child disadvantaged? Who is the disadvantaged child? Here is one way to describe him. He is usually from a lower-socio-economic class. He is white or from a minority group--black, American Indian, Mexican-American, etc. His parents are usually blue collar workers if they are employed at all. His parent's education and marital status affects him along with the number of siblings he has (Green, Hofmann, Morgan, 1967).

It is not unusual to find him in poor health nor unusual for him to come to school without having had breakfast or having shoes on his feet. He comes to school poorly equipped to meet the demands of the

middle-class school setting which results in a greater chance that he will become a dropout. It has been reported that as high as 88 percent of today's dropouts are from lower-class homes (Strom, 1966).

Teachers find the disadvantaged child unable to cope with academic pressure. They find that he lacks the necessary cognitive and language skills necessary to assimilate new concepts and knowledge (Deutsch, 1967; Passow, 1967; Bereiter and Engelmann, 1966; Havinghurst, 1966).

Language of the disadvantaged child--
deficient or different

For more than a decade there has been a controversy over the non-standard English of the disadvantaged child. There are linguists (Houston, 1970; Labov, 1970; Baratz, 1970), who argue that the disadvantaged child's language is not deficient, but that it is different from standard English. Houston (1970) offers this explanation. She contends the language these children speak is a true language with rules and syntax; these children have been labeled non-verbal when all you have to do is follow them home and listen to them talk all the way. This is supported by Riessman (1966). It has been said that the disadvantaged child misuses words. Houston says this is invalid; their phonological system is different so their rules are different. To refute the argument that the language of the disadvantaged child does not provide a basis to think cognitively, Houston reports that it has not been proven that non-standard English is a cognitive liability.

It is easy to misinterpret the language of the lower-class child as one which hampers cognitive thinking. On the surface a phrase can be spoken to a child and he appears not to respond to it and/or be confused by it. However, if the same phrase in standard English means something different, for example, in Ghettoese, one can hardly say that the child can not think in abstract terms just because he interpreted what was said as something different. Recent research has indicated that the semantic systems of lower-class children and middle-class children are different. These differences present problems to the disadvantaged. Entwisle writes the following:

The point is that a different semantic structure does not necessarily impede communication at a simple level, but it seems very likely to me that it could greatly impede learning to read or other more complex forms of linguistic behavior. If semantic structures within subgroups of the population differ, then the semantic cues that are presumed to exist, and hopefully aid the teaching of reading and other language skills may be much more visible to some children than to others. (Entwisle, 1970, p. 126)

The "other more complex forms of linguistic behavior" that Entwisle speaks of could very well be the ability to think cognitively in standard English. A study previously cited, Osser et al. (1969) in their research on imitation and comprehension, supports the idea that disadvantaged children have to "decode" standard English to respond to a task. They suggest this is just part of the reason why these children have language difficulties. Again this reinforces the idea that the lower-class child has to translate from one semantic system to his own. It would be easy to lose something in the translation.

The professionals supporting the other side of the argument say the disadvantaged child is deficient in language. It has been said that he comes from an environment which is cluttered with noise so that he soon learns to tune out this noise. This along with the child having inadequate speech models results in poor auditory discrimination skills. (Deutsch, 1963; Black, 1966; Blank, 1970). Poor auditory discrimination prohibits the child to distinguish between subtle sounds in language development; thus, the word cap might be heard as cat, dig as pig and so on.

The lower-class child has been labeled as non-verbal. Bernstein (1961) has reported that in the lower-class home, non-verbal communication takes priority over verbal communication.

Their society is limited to a form of spoken language in which complex verbal procedures are made irrelevant by the system of non-verbal, closely shared, identifications that serve as a backcloth to the speech. The form of the social relationship acts selectively on language potential. Verbalization is limited and organized by means of a narrow range of formal possibilities. These restricted formal strategies for the sustained organization of verbal meaning are capable of solving a comparatively small number of linguistic problems, yet, for this social group they are the only means of solving every verbal problem requiring a sustained response. It is not a question of vocabulary; it is a matter of the means available for the organization of meaning, and these means are a function of a special type of social relationship. (Bernstein, 1961, p. 139)

In a later writing, Bernstein (1964), was to call this speech of the lower-class as the "restricted code" as compared to the "elaborated code" of the middle-class. Characteristics of the restricted code, the language of lower-class children, are the use of fewer words with less

expressive variety; a limited or restricted number of sentence structure; the use of shorter, simpler sentences; use of words not representative of the school environment (Bernstein, 1961; Black, 1966).

Research by Bernstein layed the groundwork for others in the realm of language and its effect on cognitive development. Deutsch (1967) reports that

it seems reasonable to conclude that as we study the background influences on qualitative variables in language and language development, we also are studying the effects of the same influences on cognitive development and problem-solving styles and abilities. (Deutsch, 1967, p. 215)

Deutsch found that in verbal performance with lower-class children and middle-class children that the lower-class performed significantly lower than middle-class subjects. The more difficult the verbal task was, the poorer the disadvantaged child would perform. Through extensive testing Deutsch discovered a "cumulative deficit" as the child progressed from first to fifth grade. The older the child became the further he would fall behind his middle-class counterparts. Bereiter and Engelmann (1966) would agree with this. They feel that the language of the disadvantaged child is similar to that of the middle-class child; similar in sentence structure, length and variety. From this they conclude that lower-class children are slower in learning how to use language and that is why they fall behind. This is in total opposition to the beliefs of the linguists.

Cazden's view

Cazden (1970) suggests that we cannot accept either the language deficit theory or a language different theory.

First, they speak only of patterns of structural forms and ignore patterns of use in actual speech events. Second, they speak as if the child learns only one way to speak, which is reflected in the same fashion and to the same extent at all times. (Cazden, 1970, p. 38)

There is a need to go beyond the child's grammatical competence. It is the child's decision to speak or to remain silent--a decision that he makes based on the situation and his past repertoire of experience.

Research should deal with how the child verbally responds to different situations--school, home, play, and in test situations. Cazden (1970) reported that the mean length of response is dependent upon the situation. When a child is personally involved, he uses longer and more complex sentences. The listener also effects the child; he will modify his speech to suit the listener. This can be easily demonstrated if one thinks about himself and how he verbally responds to different people. An adult speaks differently to a child than he would to his spouse, or to his doctor, or to one of his professional peers.

Indian

Language is a barrier for the American Indian as it proves to be for other minority groups. Many Indian children come to school knowing only their native language and are faced with the task of learning a completely new language along with adjusting to the foreign

environment of school. "Language is a basic problem and, since language and culture are inseparable, culture is a problem" (Kaplan, 1972, p. 156). In other words if you strike out at a child's language, you strike out at the whole child and his background of experience. Becenti (1970) reports that the shyness of Navajo children in school is not because of Indian custom, but rather from fear of speaking verbally. The child feels inferior and inadequate and feels that he will be ridiculed when he opens his mouth. Imagine the complications in learning that arise from this situation. Those Indian children who start school knowing English usually have learned it from bilingual parents whose vocabularies are not extensive; nor is their usage of English fully comprehensive (Jerdone, 1965). Kaplan (1972) reports that Indian children fall significantly below the norms of middle-class children for each grade level and that the gap widens at each higher grade level. This supports Deutsch (1965) who found there is a cumulative deficit for the disadvantaged child as he advances through the grades. Wenner (1972) feels that class instructors should speak and teach using the Indian's language and then, at the right time, present English as a foreign language. The Indian languages do not have as many abstract words to describe the situations and ideas for which the English language has been developed (Jerdone, 1965). He suggests that Indian children should have many first hand experiences and English words to express the experiences.

Language Intervention Program

It has been solidly established by research that the language of the disadvantaged child is of paramount importance to his educational well being. The controversy over whether his language is deficient or different may go on and on, but, what really concerns educators is that the language of the lower-class child inhibits the child's whole self from active participation in the school environment. His language locks him in, restricts him as a child, as an adult. A variety of intervention programs, with an emphasis on language, have been in progress to combat this. The author will briefly review three of them.

Head Start

The Head Start program of the U. S. Department of H. E. W. belongs to one type of intervention program, namely, that of enrichment. The philosophy behind this is that the disadvantaged child has not been exposed to the variety of stimuli to which the middle-class child has been exposed. The enrichment program introduces new concepts and broadens familiar ones. Verbalization is part of the process. As mentioned earlier, one of the goals of Head Start, which began in 1965, has been to develop a child's language so as to increase his cognitive ability and verbal communication. Lambert (1968) suggests that to promote language development the Head Start teacher sets the stage. She should emphasize labeling to give objects names. She

should encourage conversation and capitalize on opportunities for verbal interaction between herself and the child and between the child and his peers. Snack and lunch times are prime opportunities for conversation. The teacher provides feedback; she clarifies and expands existing concepts and introduces new concepts. She is conscious of being a good language model. The child says, "me slide," the teacher models by saying, "Johnny is sliding down the slide." A good teacher includes daily stories, songs, fingerplays, for they are an integral part of the curriculum (Lambert, 1968). The present research is testing Head Start children to evaluate verbal imitation and comprehension. Results of the testing might be dependent upon existing classroom techniques for language development.

Engelmann-Becker

The Engelmann-Becker program begins with the idea that lower-class children are academically behind middle-class children (Bereiter and Engelmann, 1966). The program stresses working with language deficiencies. Twenty to thirty minutes a day were spent on language skills. In a programmed manner, the child is taught rapidly with many positive reinforcements such as verbal praising or smiles. The more difficult skills are dependent on the earlier simple skills. Therefore, each child masters the simple skills before the teacher goes on to the difficult ones. The Englemann-Becker program teaches language concepts used in logical thinking rather than emphasizing social and

expressive uses of language, which they feel will develop automatically through the program (Maccoby and Zellner, 1970).

Blank and Solomon

Blank and Solomon (1969) initiated a one-to-one tutorial language program for disadvantaged pre-school children to develop cognitive skills and abstract thinking. Blank

focused on developing a repertoire of cognitive skills which would help the child acquire strategies of thinking and information processing (e. g., selective attention, inner verbalization, ability to delay imagery of future events, etc.) that would transfer to later, more complex learning situations. (Blank, 1970, p. 74-75)

This language program differs from the traditional enrichment programs which are usually not structured and which concentrate on vocabulary and syntax. The language program was a daily part of the overall program. Each child was taught individually for fifteen to twenty minutes each time. Familiar materials were presented to the child and the teacher led the child through questioning to discover new concepts, to relate cause and effect and to extend the meaning of familiar experiences. This was not casual conversation. If the child's verbalization wandered to other topics, the teacher would bring his attention back to the subject at hand.

The unique opportunity afforded by the one-to-one teaching situation both helped the child to develop sustained sequential thinking and allowed the teacher to continuously diagnose difficulties and readjust the lesson to make it appropriate to the child's level. This is in marked contrast to the group setting where a child's errors (either wrong answers or failure

to answer) are almost inevitably followed by didactic teaching or by turning to another child until the correct answer is supplied. In either case, the child who did not know the correct answer may often be left in ignorance since he must take the information on faith. There is little opportunity in the group setting for the teacher to pursue the reason for his failure and then to offer him the necessary experiences to help him understand the rationale for the correct answer. (Blank, 1970, p. 75)

Summary of Research

To summarize the literature shows that language presents a multitude of problems in the school situation for the disadvantaged child. The controversy between deficient or a different language goes on and each side of the argument has given valuable insight into the problem. The linguists have found that the language of the disadvantaged child differs in syntactical structures and inflections. Some of these studies infer that the lower-class child, outside his environment, has to translate or recode language that he hears. This task is even greater for minority groups such as Indians who do speak a different language. The lower-class child has been tested in the school environment for verbal competence at different levels and in a variety of ways; and, these results have usually been compared to the results of similar tests administered to middle-class children. It would be interesting to have a test constructed of non-standard English and vocabulary be given to both lower-class children and middle-class children and then compare results. Would lower-class children still fare as well as

they usually do? Would lower-class children score higher on conceptual understanding?

Much of the research has come from school populations--from middle-class structured schools. There appears to be a lack of intensive investigation of the disadvantaged child's language in his own environment. Such questions as the following need to be answered. How does the lower-class child use his language in response to a variety of situations and listeners and, what diversity of vocabulary does this child have when used in context of his own environment?

Thousands of dollars have been spent on a variety of pilot programs. Most of these programs emphasize language. It is time for the results of these programs to be compared with one another so that the best of the language curriculum from each program could be used as guidelines to be incorporated into existing preschool and public education programs. This study has attempted to contribute to the knowledge in the area of teacher effectiveness in language development.

METHODS AND PROCEDURES

Sample

The sample was drawn from the 1974-75 Uintah and Ouray Indian Reservation Head Start Program at Fort Duchesne, Utah. There currently are five centers and nine classrooms in the program. The author had a university assistantship to work with the Myton, Mission-LaPointe, and Fort Duchesne centers which is the reason why the sample was taken from only these three centers. Six classrooms were involved. The three centers, located about fifteen to twenty miles from one another, are situated in rural areas. The children tested are from these rural areas and belong to a lower socioeconomic class in accordance with Head Start regulations. The Head Start Program allows ten percent of its children enrolled to be above the income level set for eligibility for the program. These children were excluded from this study. The sample was composed of 30 boys, 12 Indian and 18 non-Indian; and, 16 girls, six Indian and 10 non-Indian. The 46 subjects for this study spanned the ages of three-years four-months to five-years one-month old so as to fit the age criteria of the instrument the investigator used. On the test days for each center, the children who fell within the above age range were tested if they were present, if they were absent that day, they were not included.

Instrument

The investigator used test seven (see Appendix B), Verbal Memory from the McCarthy Scales of Children's Abilities by Dorothea McCarthy (1970). The test has two parts; the description is as follows:

Part I of this test is a graded series of words and sentences to be repeated by the child. The first two items contain concrete concepts likely to be within the child's understood vocabulary, the next two items are full sentences (one primarily of interest to boys and the other to girls). The entire series, then, tests the child's ability to repeat words and sentences he hears. This is important developmentally if he is to move ahead in communication skills. Some children who easily parrot isolated words are baffled by the sentences and seem to get no help from contextual cues. (McCarthy, 1970, p. 9).

Part II, the examiner reads a simple short story to the child, who is then requested to retell the story. He is not expected to repeat verbatim, so long as the essential elements or ideas are presented. Many children who do well in repeating the words and sentences of Part I are unable to cope with this more advanced form of communication skill required for academic progress. Even such routine tasks as listening to a story read by the teacher, following oral directions, and remembering a homework assignment require this kind of ability. (McCarthy, 1970, p. 10)

The McCarthy Scales of Children's Abilities was used because it is a test that was composed to be as culture free as possible and representative of the United States population of children two-and-one-half through eight-and-one-half years of age. In McCarthy (1970, p. 33) "the reliability coefficients shown in Tables 9 and 10 and the standard errors of measurement shown in Tables 9 and 10 give evidence that the six MSCA Scales are both internally consistent and stable."

Administration of the Instrument

January 22, 1975, the author ran a Pilot Study on five children in the Fort Duchesne Full Day Head Start Program. The subjects were three girls and two boys ranging in ages from four years and two months to four years eleven months. The investigator administered the test to each child individually. The testing room contained a small table with two child-size chairs; the subject sat across the table from the investigator. A tape recorder, placed to the left of the investigator, recorded each of the subject's responses. After the subject sat down, the investigator gave Part I of the test and introduced it by saying:

(name of child), I have a game to play with you. 'Now I am going to say some words and I want to see how many of them you can say after me. Wait until I have finished saying all the words before you start to answer. Listen.' (McCarthy, 1970, p. 79).

Part II was introduced by saying:

Now I am going to read you a little story. Listen carefully, and we will see how well you can tell it back to me. You don't have to tell it back to me word-for-word. (McCarthy, 1970, p. 80).

The following directions on how to administer the test were taken from McCarthy (1970).

1. If the child says he cannot perform a task, or stops after beginning a task, the examiner may offer simple encouragement by saying, 'Just try it once' or 'I think you can.' . . . If the child asks for help, the examiner might say, 'It's not fair for me to help you; I want to see how well you can do it all by yourself.'

2. . . . Verbal memory--it is especially important to be sure the child is paying close attention before proceeding.
3. If a child spontaneously changes an answer from wrong to right, he receives credit for the item. If he spontaneously changes an answer from right to wrong, he is scored zero for the item.

The child was given verbal praise after the first response and then physical praise by a nod of the head following each of the remaining responses of Part I. The verbal praise consisted of the words "Very good, you know how to play my game." Between Part I and Part II, the author again gave verbal praise--"You played that game so well, let's try another one." During the Pilot Test, it was found that it was absolutely necessary to have complete quiet while administering the test. On Part I it was found that an example had to be given to the child before the test began. The example was cow--house--hat which the child had to repeat. The procedures were found to be effective and were used for the actual research.

The actual testing took place in the morning of four different days. The Fort Duchesne center was tested on February 6, and 25, 1975; the Mission-LaPointe center on February 7, 1975; and, the Myton center on February 26, 1975. At Myton an unoccupied classroom was used for testing; at Mission-LaPointe the audio-visual room was available; and, at Fort Duchesne a small office was available. The children were told by the author on a previous visit that on the next visit she would play a special game with some of the children.

Analysis of Data

The T test was used to determine if there was a significant difference, at the .05 level between the means of the standardized population from the McCarthy test and the means of the population under investigation; it was used to compare the mean scores of Indians to those of non-Indian within the sample at the .05 level; and, it was also used to compare the performances between classrooms at the .05 level. The T test was also run on the data to compare the mean scores of males to females within the sample at the .05 level.

FINDINGS

Head Start Scores vs Standardized Norms

One purpose of this study was to compare the Head Start scores to the norms of the Verbal Memory Test from the McCarthy Scales of Children's Abilities (McCarthy 1970) as illustrated in Table 4 (Appendix D). The results of all four age groups tested, ages three-and-one-half, four, four-and-one-half, and five, showed that the Head Start children scored lower than the norms of the McCarthy Scales of Children's Abilities on both Part I and Part II of the Verbal Memory Test. The t test was used and although the Head Start group scored lower, there was not a significant difference between these two groups, resulting in a rejection of the hypothesis that there would be a significant difference. It appears that the sample was too small to provide a basis for a difference which might be significant.

Differences Between Indian and Non-Indian

As indicated by Table 5 (Appendix E), comparison within the sample between Indian and non-Indian subjects on both parts of the test showed that there was no significant difference between the two groups, supporting this hypothesis. Again the t test was used. It is important

to note that since both groups scored lower than the standardized norms, other factors common to both groups influenced the low scores.

Comparisons of the Four Classrooms

To test the hypothesis that there will be an association between teaching styles and the children's performances on the language test, the four-and-one-half year olds and five-year-olds were grouped together in each classroom to provide a larger sample for analysis. The *t* test was used to compare the four classrooms with one another. There was a difference at less than the .01 level of significance on Part I of the Verbal Memory test between classroom four and classroom one, supporting the hypothesis that there would be an association between teaching styles and the children's performances on the language test (Table 1). The teaching styles between these two classrooms, as observed by the author, were strikingly different; one emphasized language development and the other, not. Classroom 2 had only one subject who was in this age grouping, therefore, was not included in this analysis.

Sex Differences

Comparison within the sample between boys and girls at three age levels (there were not any four-year-old female subjects; hence, this age level was eliminated), girls did better than boys for both parts of the test (Figure 1 and Figure 2).

Table 1. Computed t scores and comparison of means (by four-and-one-half and five-year olds) between the four classrooms on Part I and Part II of the verbal memory test

Classroom 4 vs classroom 1	Classroom 4 (means)	Classroom 1 (means)	Computed T scores
Sample size	12	6	
Part I	13.6	24.0	$t = - 3.00 < .01$
Part II	2.8	5.3	$t = - 1.68 < .20$

Classroom 3 vs classroom 1	Classroom 3 (means)	Classroom 1 (means)	Computed T scores
Sample size	5	6	
Part I	17.0	24.0	$t = - 1.51 < .20$
Part II	3.2	5.3	$t = - 1.38 < .20$

Classroom 4 vs classroom 3	Classroom 4 (means)	Classroom 3 (means)	Computed T scores
Sample size	12	5	
Part I	13.6	17.0	$t = - 0.73 < .50$
Part II	2.8	3.2	$t = - 0.22 < .90$

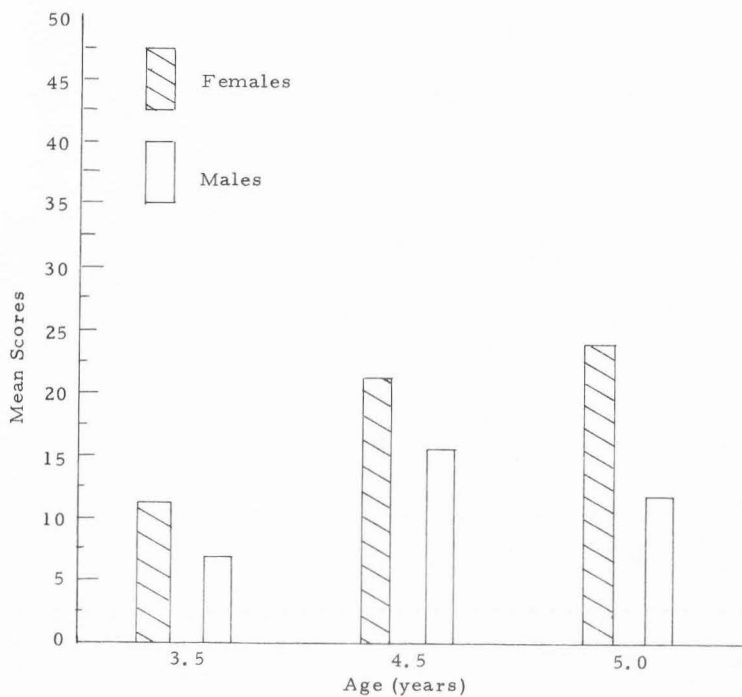


Figure 1. Comparison of mean scores between females and males on Part I of the Verbal Memory Test from the McCarthy Scales of Children's Abilities (McCarthy 1970).

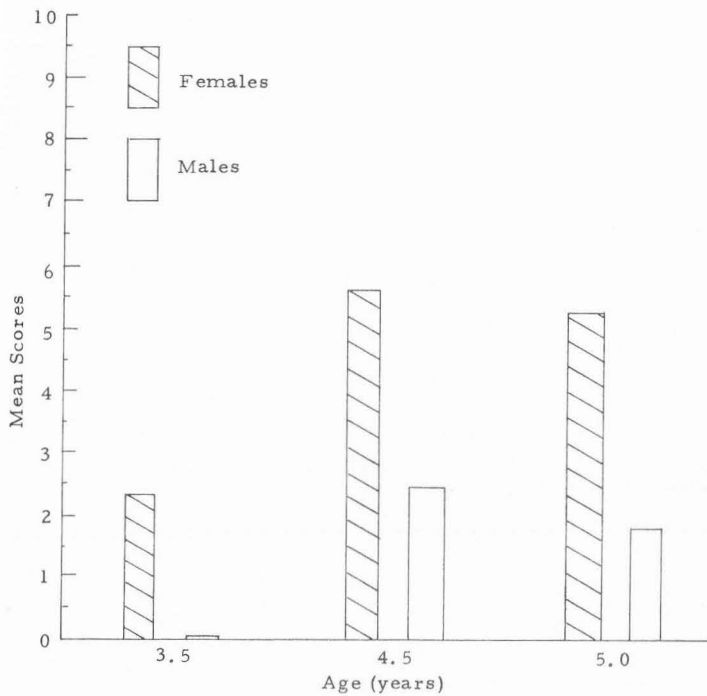


Figure 2. Comparison of mean scores between females and males on Part II of the Verbal Memory Test from the McCarthy Scales of Children's Abilities (McCarthy 1970).

Using the *t* test, there was a significant difference at less than the .05 level on Part II of the Verbal Memory Test between four-and-one-half year olds, with females scoring much higher than males (Table 2).

Eliminating the age groups and using the *t* test, females did significantly better at the .02 level on Part II of the Verbal Memory Test (Table 3).

Table 2. Computed *t* score and comparison of mean and standard deviations of low scores by age between males and females

Female sample		$3\frac{1}{2}$ N = 4	$4\frac{1}{2}$ N = 7	5 N = 3
Part I	mean	11.3	20.9	24.0
	SD	6.9	9.0	2.2
Part II	mean	2.3	5.6	5.3
	SD	3.3	2.7	2.1

Male sample		$3\frac{1}{2}$ N = 1	$4\frac{1}{2}$ N = 9	5 N = 5
Part I	mean	7	15.4	12.2
	SD	0	7.2	7.8
Part II	mean	0.0	2.4	1.8
	SD	0.0	2.3	2.2

Computed <i>t</i> scores				
Part I		-0.47 < .90	-1.25 < .30	-2.20 < .10
Part II		-0.52 < .90	-2.34 < .05	-1.93 < .20

Table 3. Computed t score and comparison of means between males and females

	Females N = 14 (means)	Males N = 22 (means)	Computed t scores
Part I	18.8	14.5	$t = -1.56 < .20$
Part II	4.6	2.1	$t = -2.66 < .02$

Figure 3 illustrates a clearer visual picture of this information. Part I of the Verbal Memory Test deals with imitation and production and Part II with comprehension and production. As stated in the Review of Literature, it was found that imitation was greater than comprehension and that comprehension was greater than production of speech with children from ages two years through six years (Fraser et al, 1963; Lovell and Dixon, 1967). This study supports those findings, since many of the subjects did very well with Part I of the test but did very poorly with Part II (Appendix A). From looking at the mean scores of Part I of the Verbal Memory Test (Table 3), there is a strong indication that the females' ability to imitate and then to produce verbally was more advanced than the males' ability. The mean scores of Part II demonstrate that females comprehended and then produced more than males did verbally.

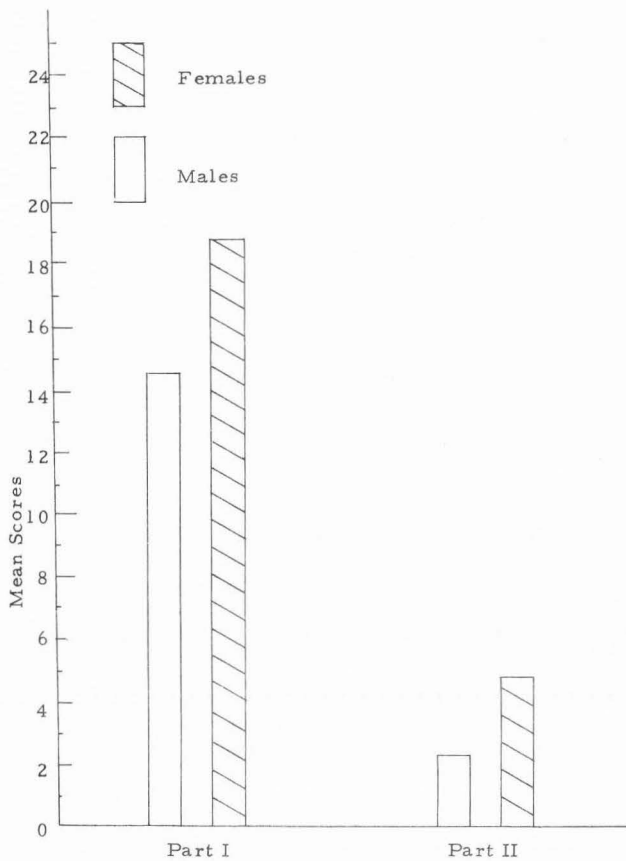


Figure 3. Comparison of mean scores between females and males on Part I and Part II of the Verbal Memory Test from the McCarthy Scales of Children's Abilities (McCarthy 1970).

DISCUSSION

Four Classrooms

The four classrooms presented an ideal opportunity to study a diversity of teaching philosophies, preparations and techniques for a language development program. All the teachers involved in the study had a sincere interest in each student's growth and development. They were concerned in the overall progress of their children. However, a sincere interest and a deep concern for the individual child are only a few of the basic ingredients necessary for a teacher to fulfill his role in developing language abilities in his children. What was observed to be effective was how efficiently the teacher implemented his language program through preparations and techniques. Weikart sums this up by saying that it doesn't matter what kind of curriculum that you have as long as the children are "taught by people who can create the necessary environment" (Weikart, 1972, p. 211).

Classroom one

Classroom one was located in a two room school house not shared with any other classes. The environment radiated warmth and security. The head teacher was clearly in charge of the program and at the same time she allowed much freedom on the part of the assistant teacher

encouraging her to be creative and to have a voice in the program.

The assistant teacher had major responsibilities and could rely on guidance from the head teacher when needed. This was the only center that had a visible language program as a major goal in the overall goals for the classroom and it was a strong and working one. Both teachers were attentive and good listeners when individual children addressed them. During freeplay verbal interaction was stimulated between the teacher and child and between the child and his peers.

Verbalization was built into the small and large group activities. During these activities a comfortable atmosphere prevailed, encouraging the shy and withdrawn child to speak freely. The head teacher made it a point to zero in on the child who needed confidence in speaking.

As a daily part of the program a transition device fostering individual language, was used when going from the large group activity to lunch.

For example, the child had to say his full name, or the color of the shirt he was wearing or say how old he was or say something that related to the previous group discussion. The child was encouraged to respond in a complete sentence. If his shirt was blue, he was prompted to say "My shirt is the color blue" or "I'm wearing a blue shirt." The children in this classroom loved this attention and responded with clear loud voices. After the teacher had read a story or told a flannel board story it was not unusual for one or several of the children to take turns at retelling the story in his own words. This was an excellent method

for developing comprehension, sequencing and verbal production; which Part II of the Verbal Memory Test tested. It appeared to the author that these two teachers used every opportunity they could to capitalize on language development; they were truly a major impetus in promoting good language skills in their children.

The children's scores revealed that these teaching techniques worked. The only children who fit the age categories in this classroom were four-and-one-half year olds and five year olds. Both age groups had mean scores above the McCarthy norms for both Part I and Part II of the Verbal Memory test as can be seen by comparing these scores (Appendix A) with the national norms (Appendix D). One five-year-old girl did not score at all, her performance was zero. But could it be related to the fact that she was absent from school more than she was present? The investigator believed that her lack of performance and lack of attendance was highly related. The author was unaware that her background was dissimilar to the other children with the exception of not having had the continual influence of language development from two conscientious teachers.

Before writing this discussion the investigator once again listened to the recorded tape portions of the test given to each child. With the exception of the previously mentioned five-year-old, two noticeable characteristics stood out in this classroom for all subjects. One was the clarity of their speech and the second was the volume of their voice and their uninhibited manner.

Subject 36 (see Appendix A) a four-and-one-half year old started out in this classroom not talking to any of the teachers or children. He was fortunate, in that he was given a lot of emotional caring. He was developing a good self-concept and the confidence to speak. The head teacher commented that she had singled him out for help in developing confidence and language; she followed this through with the encouragement that he needed and by putting him in situations where he had to speak. His test scores reveal the success the teachers had with him.

Classroom one had an ideal climate for fostering language development. The three following qualities made it work:

1. Two teachers who worked together as a team planning, teaching and evaluating.
2. A well thought out and prepared language program.
3. A program that was individualized to meet each child's needs.

Classroom two

Classroom two shared a small elementary school of five rooms with another Head Start classroom (Classroom three). The Head teacher and her assistant teacher worked well together. The program probably would have been more effective if the assistant teacher had been given more responsibility in planning the program and following it through. Even though they worked well together, the assistant teacher was more of a helper who set up the activities; she could have

had so much more interaction with the children in creating an intellectual environment. The head teacher was creative, flexible and worked toward attainable goals for each child. Her program was individualized taking into account the differences of the children. The head teacher was conscious of the importance of language in her program. As part of the first rug time each day, the children were encouraged to actively participate in a "show and tell" type of activity. Each child would come up and sit next to the teacher in front of the class. It was very informal and relaxed; the children usually preferred to tell about something rather than show something. This was a special time and the teacher put the spotlight on the child. Here she was building both self-concept and language simultaneously. She was a good language model; she spoke correctly and clearly. At snack and lunch time, language was part of the main course. If they were having orange slices, crackers and juice for snack, the teachers would emphasize and have the children verbalize the shapes, colors, and flavors of the food and sometimes include where the food came from. The head teacher had much one-to-one interaction with the children during freeplay time; time, however, in which verbalization could have been capitalized on more efficiently. Even at that she was doing a good job at listening to questions and responses of individual children.

The subjects from her class consistently performed well for their age level on the Verbal Memory Test (see Appendix A). The

author felt this was not a coincidence but due to good teaching techniques and planning language development into the program. To summarize, this program had qualities similar to classroom one such as:

1. A prepared language program.
2. A program that was individualized to meet each child's needs.

This program would have been stronger if both the head teacher and the assistant teacher were to share more of the responsibilities of planning, teaching, and evaluating.

Classroom three

As mentioned previously, classroom three shared the building with classroom two. The similarities between the two classrooms ended there. The head teacher and the assistant teacher were cordial to one another but did not have a working relationship which is essential in a close teaching situation. They each did their own thing. The assistant teacher was inexperienced and needed guidance and instruction in the general field of preschool education and child development. The head teacher was not providing this. Neither teacher lacked for concern nor interest in the needs of their students, but they did not get it together. The head teacher was a traditionalist. Every adult had to have had at least one teacher like her going through grade school. She was well meaning, sweet, played the piano, sang a lot of songs and the children had a jolly time; a facsimile of Romper Room. Middle-class children

would do well in her classroom. However, Head Start children are not middle-class children and they tend to get lost in such an environment. It defeats the whole purpose of Head Start. The program was not individualized and did not appear to meet the particular needs of each child--emotionally, socially, physically or intellectually. Language development played a relative minor role. There was some interaction at snack and lunch times but not enough and usually it was the teacher talking to the child. During freeplay there was very little verbal interaction between teacher and child and play for the sake of play instead of learning was the theme. At rug time, when the whole group came together, there was very little encouragement given to the shy or the insecure child to participate in the discussion. If there was discussion at this time, it was geared to the child who needed very little stimulation to express himself verbally.

The individual scores were of extremes; the children either performed very well or performed poorly if they performed at all. The investigator noted that the children who did poorly lacked complete self-confidence in their speaking ability, even though they were familiar with her. They were not non-verbal children but they performed that way. As was mentioned earlier, this head teacher ran a traditional classroom, but this is not the reason for the weaknesses in the program. The weakness in the program are found in the overall curriculum. A few specifics would include not individualizing the program, lack of

rapport between the two teachers, and in little preparation for a language program. This classroom needs to redirect their goals for the children and then to develop a plan to work toward them. Then there would be a much greater probability that there would be a greater level of growth in language.

Classroom four

Classroom four is really three classrooms in one. There are three head teachers and three assistant teachers involved in a team teaching situation. The investigator chose to call it one classroom because the children see all six teachers daily and these six teachers together influence the final products of all the children. This team teaching situation was, by far not team teaching at its best. It had many weaknesses and most could have been overcome by the teachers' commitment to work together. To be effective team teaching requires many out-of-class hours of planning and preparation. This the teachers were not willing to do because they were already loaded down with out-of-class duties and paperwork. The result was at times just short of chaos and at other times activities ran smoothly. However, there was very little carry over of concepts and ideas from one teacher to another because, the teachers each did her own planning without coordinating their ideas and activities. The teachers were all good-exiting. The potential for what they could do with their own classroom or what they could do in a strong team teaching situation was overwhelming.

The school day started out with snack with all 50 to 60 children in the art room eating at one time. Verbalization was not encouraged and minor discipline problems always occurred. After snack the group was divided in two; the three year olds went into the gym and the four year olds went into the middle room, the language arts room. Both groups brushed their teeth and then had stories read to them. The three year olds stayed in the gym for free play. Freeplay was organized more for burning energy than for providing a wealth of material and activities for learning through play. The teachers had a tendency to stand and supervise the children rather than sit or kneel at eye level to have any kind of interaction with the children. Freeplay was the weakest part of this program. Following freeplay there was usually a music activity. The gym was conducive to running and the teachers constantly had discipline problems in this physical environment with such a large group of children--about 25 to 30 children with two to three teachers. The music activities sometimes ended up with children scattering in all directions.

Meanwhile, the four year olds were divided into two groups; half of them went into the art room for an art activity and the other half remained in the language arts room. The ones in the language arts room were further divided into two groups of five to seven children. This was one of the strong points of the program. The head teacher took one group and an assistant teacher took another; they worked with

pre-reading and math skills. There was a lot of verbal interaction just because of the size of the group. Depending upon the teacher, the quality of verbal interaction ranged from just happening to constructive stimulation. Because of the group size so much more could have been squeezed out of it for the benefit of the child. The assistant teacher was given a lot of responsibility in doing what she wanted with her group. This left the situation open for the teacher to put herself into it and be creative. This opportunity was not always used to advantage. After about ten minutes the teachers exchanged groups and then after a total time of about 20 minutes in the language arts room, this whole group went into the art room and the children in the art room came into the language arts room to go through the activities the previous group had participated in. When both groups of four year olds had completed the activities in the language arts room and the art room, they then went into the gym for freeplay; and, the three year olds were divided into their respective groups for the art room and language arts room. All of these activities were followed by lunch.

When the raw scores are reviewed (see Appendix A), it can be seen, like center three, that there were extremes; those who would not perform at all and those who performed well. This was the only center in which the investigator found a number of subjects who acted up or showed off for attention before and during the testing. These children who had this kind of behavior without exception, performed poorly, if

they performed at all. Was it the team teaching situation that produced this behavior? Was that their one sure way of getting attention when they were divided into large groups as they were?

As it stood there was very little coordination of activities between teachers. Therefore, there was little carry over of language from one teacher to another. With 50 children in their program and the teachers' unwillingness to spend the time necessary for good planning and evaluation, individualizing the program hardly seemed possible. How do you get around to talking about each child's individual needs and setting up goals for him when there are 50 in the classroom? What kind of a language development program can you have for a child when he might be overlooked because the teachers have to discuss a more pressing discipline problem of another child? The thought of building a solid language development program while this kind of team teaching was going on was disturbing. The potential for building a good language development program was there, only if the teachers were to change and strengthen their team teaching or if they were to go back to each having their own individual classroom.

Language Characteristics

When being tested the children in the sample made many errors common to children of their age in developing language patterns. On Part I of the Verbal Memory Test (see Appendix B) number five and

six were complete sentences that the child had to repeat back to the investigator. In number five (The boy said good-bye to his dog every morning before he went to school.), "He goes to school" was substituted quite often for "he went to school." The word "dog" was replaced by "doggie" and "before" by "fore." On number six (The girl tied a pink ribbon on her doll before she went out.), doll was often replaced by dog. This was interesting to see that some children carried the word dog over from the previous sentence, or, it might have been that dog was more familiar to these children than doll.

The review of literature suggested that children learn language by syntactical units and remembered sentences by syntactical units (Jenkins, 1973; Kagan, 1964; Salzinger et al, 1966). The author found that the children imitated sentences five and six through syntactical units. They would repeat one unit then pause, then go on to the next unit then pause, etc. For example, "The girl tied"--pause--"a pretty pink ribbon"--pause--"on her doll"--pause--"before she went out." This agrees with past findings of remembering by syntactical units. Part II of the Verbal Memory Test also supports this use of phrases. In Appendix B the reader will find the subjects' responses to Part II, where the child tells back a story that was just told to him. Here we see that one unit from the story, "I'll get them for you," shows up in that exact form or a similar form in quite a few of the responses. The units "no cars were coming" and "he looked both ways" were also

frequently remembered. As the child was telling his version of the story, these units would be emphasized if used. The investigator concluded that the use of these syntactical units aided the child to remember and to tell the story.

Indian vs Non-Indian

The literature reveals that language is a basic problem for the Indian outside of his own environment (Becenti, 1970; Jerdone, 1965; Kaplan, 1972). On some Indian reservations, Indian children come to school speaking and knowing only their native languages, such as the Navajo children. However, most of the Indian children on the Uintah and Ouray Indian Reservation come to Head Start speaking and knowing only English. Most of their parents are bilingual however, and only speak their native language when conversing to the grandparents. Aware that the children in the sample came from this kind of background, the author felt language would not pose as great a problem as if the children were learning a totally new language. Therefore, other factors should be considered when viewing the results of this study which indicated that there was not a significant difference between Indian and non-Indian children.

Jerdone (1965) suggests that Indian children who start school knowing English usually have learned it from biligual parents whose vocabularies are not extensive; nor is their usage of English fully

comprehensive. These are some of the same characteristics that Bernstein (1961, 1964) described of the language of lower-class children. From this, the investigator feels that the factors that have influenced the language development of the lower-class non-Indian children in the sample are similar to the factors affecting the language development of the lower-class Indian children. Therefore, the scores between these two groups of children would be similar.

SUMMARY AND CONCLUSIONS

The findings of the hypothesis that there is a significant difference between Head Start scores of the Uintah and Ouray Indian Reservation and the norms of the Verbal Memory Test from the McCarthy Scales of Children's Abilities (1970), were not in agreement with past research (Osser et al, 1969) which has shown that there is a difference in language performance--to imitate and to comprehend speech--between lower-class children and middle-class children. The middle-class children had superior performance even when the investigators compensated for dialect and standard English. The data from this study demonstrated that the Head Start children did score lower than the norms; the author is confident that if the size of the sample had been larger, there would have been a significant difference.

Analysis of the four classrooms, which resulted in supporting the hypothesis that there will be an association between teaching styles and the children's performance on the language test indicated that the teacher is an influential factor effecting the performance of the children. Evaluation of the four classrooms showed that it did not matter if the teacher was a traditionalist (one who emphasizes social and emotional development over intellectual development within a more structured authoritarian framework) or a progressive (one who emphasizes the

development of the whole child, his social, emotional, physical, verbal, and intellectual development within an open democratic framework) or if he team taught or had his own classroom. What was more important for language growth was that the teacher was well prepared and followed through; that he worked well with his assistant teacher; and that he individualized the program. Weikart (1972) contends that the "operational conditions" are of more value than the type of curriculum being used. The operational conditions being planning and evaluation; classroom supervision; team teaching (head teacher and assistant teacher working together); and expectations the teachers had for their students.

SUGGESTIONS FOR FUTURE STUDY

Several areas lend themselves for further investigation. Using a larger sample size, it would be interesting to repeat this experiment again as a pre-test at the beginning of the school year and as a post-test at the end of the school year. A comparison of classrooms could be made to see if there is significant gains in language in one classroom over the others. Another study that would be of benefit would be to administer a pre-test and post-test to experimental and control groups of testing a method of teaching language comprehension. A study done in this manner could control for more variables than the present study.

An instrument such as a questionnaire, could be devised for the teacher to evaluate and to identify this language program. The results of this could be compared to the results of a language test administered to his students. This could be of benefit to the teacher for it could demonstrate to him his areas of strengths and weaknesses. There is a need for an instrument like this, for it would objectively identify areas in the language program that needed strengthening.

The McCarthy Scales are not perfect. The additional use of another instrument to measure language development for a comparison with the McCarthy Scales would lend support or reveal discrepancies between the two instruments.

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APPENDIXES

Appendix AMean Scores of Sample

Subject	Age	Sex	Center	Indian?	Score (I)	Score (II)
1.	3.5	M	4	YES	0	0
2.	3.5	F	4	YES	5	0
3.	3.5	F	4	YES	23	8
4.	3.5	F	3	NO	9	1
5.	3.5	M	3	NO	0	0
6.	3.5	M	3	NO	0	0
7.	3.5	F	3	NO	0	0
8.	3.5	M	2	YES	7	0
9.	3.5	F	2	NO	8	0
10.	4.0	M	4	YES	8	0
11.	4.0	M	4	YES	17	4
12.	4.0	M	4	YES	0	0
13.	4.0	M	4	YES	14	0
14.	4.0	M	4	NO	0	0
15.	4.0	M	3	NO	0	0
16.	4.0	M	2	NO	16	0
17.	4.0	M	2	NO	27	4
18.	4.0	M	2	NO	15	1
19.	4.0	M	2	NO	15	6
20.	4.5	F	4	NO	16	7
21.	4.5	M	4	NO	15	0
22.	4.5	M	4	YES	0	0
23.	4.5	M	4	YES	0	0
24.	4.5	M	4	YES	6	0
25.	4.5	M	4	NO	21	3
26.	4.5	M	4	NO	24	7
27.	4.5	F	4	YES	2	0
28.	4.5	F	4	NO	18	8
29.	4.5	F	3	NO	27	5
30.	4.5	M	3	NO	9	3
31.	4.5	M	3	NO	5	0
32.	4.5	F	3	NO	29	7
33.	4.5	M	3	NO	15	1
34.	4.5	F	2	NO	26	4

Subject	Age	Sex	Center	Indian?	Score (I)	Score (II)
35.	4.5	F	1	NO	28	8
36.	4.5	M	1	NO	18	3
37.	4.5	M	1	YES	26	5
38.	5.0	M	4	YES	13	0
39.	5.0	M	4	NO	5	0
40.	5.0	M	4	YES	23	5
41.	5.0	M	4	NO	2	0
42.	5.0	F	1	YES	0	0
43.	5.0	M	4	NO	18	4
44.	5.0	F	1	YES	23	3
45.	5.0	F	1	YES	22	5
46.	5.0	F	1	NO	27	8

Appendix B

Verbal Memory Test

Test Limits

Begin with Part I for all children. Discontinue after 3 consecutive failures. If the child earns 8 or more points (out of 30) on Part I, give Part II.

Part I. Words and Sentences

Procedure

Read the words in items 1-4 at a rate of about 1 word per second. Read the sentences in items 5 and 6 slowly and clearly. Note that certain words in items 5 and 6 are underlined below and on the record form. When the items are read aloud, the underlined words should not be emphasized unnaturally.

Say, Now I am going to say some words and I want you to see how many of them you can say after me. Wait until I have finished saying all the words before you start to answer. Listen.

1. Say: toy -- chair -- light.
2. Now say: doll -- dark -- coat.
3. Now say: after -- color -- funny -- today.
4. Now say: around -- because -- under -- never.
5. Now say: The boy said good-bye to his dog every morning before he went to school.
6. And now say: The girl tied a pretty pink ribbon on her doll before she went out.

Score: For items 1-4, score 1 point for each word which is repeated, and deduct 1 point if the sequence is changed. The sequence is considered changed if the order of 2 or more words is reversed. If, however, a word is omitted, there need not be a penalty for change of sequence. For example, if a child says "toy--light" for item 1, he is not penalized because, in the correct sequence, the word "toy" precedes the word "light."

For items 5 and 6, the score is based on repetition of key words (i. e., those which have been underlined). Give 1 point for each key word which is repeated. Do not deduct points for sequence changes.

For all items, a child should be given credit if he uses "baby words" or slang (e. g., "cause" for "because," or "bye-bye" for "good-bye") as long as his response can be recognized as a genuine attempt to reproduce the stimulus word. Also, there is no penalty if a child includes words in his response that were not included in the stimulus.

Maximum Score on Part 1 -- 30

Part II. Story

Procedure

Read the story below slowly and clearly. Say, Now I am going to read you a little story. Listen carefully, and we will see how well you can tell it back to me. You don't have to tell it back to me word-for-word. Just tell me the story as well as you can.

One day after school Bob was walking to the store. On the way he saw a woman carrying some letters to a mailbox. Suddenly, the wind blew the woman's letters into the street. Bob shouted, "I'll get them for you!" He looked both ways and saw that there were no cars coming. He ran into the street and picked up all of the letters. The woman was very happy to get her letters back. She thanked Bob for being such a kind and helpful boy.

If the child appears to block on the task or says he cannot do it, encourage him with such words as, "I'm sure you can do it, or Now, put your thinking cap on and tell me as much as you can. If the child starts to tell a completely different story (e. g., Mary had a little lamb), stop him by saying, That's a very nice story, but try to tell me about the one that I just told you.

Score: The story has been divided into 11 items to facilitate scoring. Each item is scored 0 or 1.

Items 1-3 cover terms used by the child to refer to Bob, the woman, and the letters. Items 4-11 cover the series of events contained in the story.

If the child fails items 1, 2, or 3, do not further penalize him for these failures on items 4-11. For example, if he fails item 1 by referring to Bob as "Jane," he should still receive credit for saying "Jane was walking to the store" (See item 4), or "She picked up the letters" (see item 9).

Scoring is based on the ideas expressed by the child, not on his exact words. There is no penalty if the child changes the order of the actions or if he adds events that did not occur.

A list of acceptable and unacceptable responses is given below:

1. Term used for Bob

1 point for Bob, boy, fellow, guy, he, child, little (big) boy, kid, Tom (or any other boy's name).

0 points for man, girl, she, Barbara (or any other girl's name).

2. Term used for the woman

1 point for woman, lady, neighbor, grown-up, she, mother, grandmother, Mrs. Smith (or any other last name preceded by a feminine title.)

0 points for man, person, girl, Bob's mother (grandmother), big girl.

3. Term used for letters

1 point for letter(s), envelope(s), postcard(s), paper(s), mail, card(s).

0 points for stamps, packages.

4. Bob walking to store

1 point for any response indicating that the boy is on his way to some kind of store. For example, was walking (going, running) to the store (supermarket, grocery store, clothing store, delicatessen).

0 points for walking downtown, walking to school, walking with a friend, running, taking a walk, coming back from the store, going to the post office.

5. Bob saw woman

1 point for any response indicating that he encountered another individual. For example, saw, met, came upon, came across, looked at.

0 points for talked to, visited.

6. Wind blew letters

1 point for any response indicating that some object was blown away. For example, the wind blew (something), (some-things) were blown, (something) flew.

0 points for (something) went into the street, (something) fell into the street, (something) got lost.

7. Bob shouted, "I'll get them for you!"

1 point for any response in which the boy lets the woman know that he is going to help her. For example, shouted (exclaimed, yelled, said), "I'll get them (pick them up, go after them, find them, do it for you)."

0 points for shouted, "Your letters were in the street (blew away)."

8. Bob was careful

1 point for any response indicating that the boy was careful before going into the street (gutter, road, avenue). For example, was careful, looked both ways, saw that there was no traffic, there were no cars (trucks, busses) coming.

0 points for walked slowly (into the street), ran slowly (into the street), looked at the cars.

9. Bob picked up letters

1 point for any response indicating that the boy either went after, picked up, or returned the woman's property. For example, went to get, picked up, got, caught, found, gave back.

0 points for did the lady a favor, the lady got her letters back (with no mention of how they were returned).

10. Woman was happy

1 point for any response indicating a positive emotion on the part of the woman. For example, was happy, was pleased, was glad. (It should be apparent that the woman's positive emotion was based on the boy's actions.)

0 points for was surprised, was amazed, scolded him for going in the street.

11. Woman thanked Bob

1 point for any response indicating the woman's spoken acknowledgment of the boy's deed. For example, thanked, said "What a kind boy you are."

0 points for gave money, kissed, helped.

The child's entire story may be recorded verbatim on the record form (in the spaces at the right of the items), but if the examiner is thoroughly familiar with the scoring rules, he should be able to score the 11 items while the child is speaking. However, the examiner may find it useful to record any questionable response in the appropriate space on the record form for subsequent evaluation.

Maximum Score on Part II -- 11

Appendix CResponses on Part IICenter One

Subject 35. "Once Bob was going to school, and he saw a woman carrying the letters to the mailbox, once the wind was blowing it away and Bob said "Don't worry, I will get them for you." And he looked both ways and no cars was comming so he picked up all the letters."

Subject 36. "The--no cars runned over the boy and that mean old tiger comed and that monkey just eat the mean old monster; my mommy killed it. The boy--no cars was coming. And the woman lost two--and that's the end of yours."

Subject 37. "Bob saw a woman. The wind blowed the letters-- blowed them fast. Bob got all the letters back."

Subject 44. "The lady lost his letter. The man got it put it back into her for her."

Subject 45. "George saw a lady walking in the street and his and there papers falling all over and George said, um, 'I'll get them for you' and he got whole he had a whole bunch."

Subject 46. "This boy saw a lady with the letters written to put em in the mail box they blewed on the street; looked both ways there

was no car coming; he ran out there and got the papers. And the lady liked him so to go get them."

Classroom Two

Subject 17. "A woman, Bob, the wind blew the letters all over."

Subject 18. "About Bob, my Uncle Bob comes to home, to our home--he's rich. I don't have any more stories. The wind come. He gave her some money; he gave us a dollar too. You know that my grandma gave me; he gave me."

Subject 19. "Bob went to the store; there's a lady and she had some boxes on the road; and, Bob and said "I'll get them for you, and he looked both ways and no cars was comin."

Subject 34. "The letters blew away, the boys got the letter for. He looked both ways. She thanked him for getting the letters."

Classroom Three

Subject 4. "A little boy fall down the stairs; he fall down. Then he went downstairs."

Subject 29. "I can't forget--I can't. The wind blown a--a little fat lady's mail away and Bob picked it up and I can't remember and I don't know."

Subject 30. "He was helpful boy. He picked up them. There's lights all over the place. He got up and went to the bed and he saw a ghost in his bed."

Subject 32. "Um, one day--I can't remember. The wind began to blow, I mean the boy began walk and he saw the lady carrying some letters to the mailbox when the wind began to blow and the letters flopped in the street and the boy said, 'I'll get them for you.' And so he looked both ways to see if there's no cars comin and he picked up the letters."

Subject 33. "Bob--b--did --girls."

Classroom Four

Subject 3. "Bob went uptown and there's a little woman them, the boy saw a woman. And the lady letters blowing away and on the street and the boy said, 'I'll get those letters,' and then the lady was glad to see it."

Subject 11. "Boy--wind blew the letters. He said, 'I'll get them for you.' "

Subject 20. "Can't remember that either. The wind blew the woman's letters. And then Bob ran out, looked in the street. Um-- when are you going to show me that one there. And then Bob said, 'I'll get it to the little old woman.' Um, um, and Bob said, 'I'll get them' so he looked both ways and got all the letters picked up."

Subject 25. "The wind blowing. He picked em up."

Subject 26. "Bob went to get the letters and all of them blew ou-ut street and he said which ways other; wasn't no cars coming and he went to pick em up ands what the woman what Mike was a good guy."

Subject 28. "After Bob went after school, he went to the store and saw the lady bringing some letters to the mailbox. When the wind blew letters away, he went to get them; he looked both; he didn't find no cars coming; but, he went and picked up the other two; the lady was so happy."

Subject 40. "Bob saw the lady. Her letters blew away. Um, I can't think, um. The letters--letters, he picked em all up."

Subject 43. "The hat. The wind blew; the paper blowed in the street; the boy looked bof ways and no cars, then he went in the street and picked all of it up."

Appendix DTables

Table 4. T score and comparison of mean and standard deviations of low scores by age between standardization sample and experimental sample on Part I and Part II of the Verbal Memory Test

		$3\frac{1}{2}$	4	$4\frac{1}{2}$	5
Standardization sample (N=100)		(N=100)	(N=102)	(N=104)	(N=102)
Part I	mean	12.2	17.4	20.1	22.0
	SD	7.3	7.7	6.5	6.5
Part II	mean	1.8	3.1	4.6	5.2
	SD	2.6	3.1	2.9	3.0

Experimental sample		N=5	N=7	N=16	N=8
Part I	mean	10.4	16.0	17.8	16.6
	SD	6.4	5.2	8.5	8.5
Part II	mean	1.8	2.1	3.8	3.1
	SD	3.1	2.3	2.9	2.6

Computed t scores					
Part I	t=-0.55	t=-1.65	t=-1.04	t=-1.66	
	< .60	< .10	< .30	< .20	
Part II	t=0.00	t=-1.02	t=-1.04	t=-1.99	
		< .40	< .30	< .10	

Appendix ETables

Table 5. Computed t score and comparison of mean and standard deviations of low scores by age between Indians and non-Indians on Part I and Part II of the Verbal Memory Test

		3½ (N=3)	4 (N=3)	4½ (N=3)	5 (N=4)
Indians	Part I				
	mean	11.7	13.0	11.3	20.2
	SD	8.1	3.7	10.5	4.2
	Part II				
mean	2.7	1.3	1.7	3.2	
SD	3.7	1.9	2.4	2.0	

Non-Indians		(N=2)	(N=4)	(N=13)	(N=4)
Part I	mean	8.5	18.3	19.3	13.0
	SD	0.5	5.1	7.1	10.1
Part II	mean	0.5	2.8	4.3	3.0
	SD	0.5	2.4	2.8	3.0

Computed t score					
Part I	t=0.43	t=-1.27	t=-1.47	t=1.15	
	< .70	< .30	< .20	< .20	
Part II	t=0.63	t=-0.72	t=-1.41	t=0.1	
	< .60	< .60	< .20	< .90	

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