

THE EFFECTIVENESS OF THE USE OF PUPPETS IN
ORAL LANGUAGE DEVELOPMENT OF CULTURALLY
DISADVANTAGED FIRST-GRADE CHILDREN

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DISADVANTAGED FIRST-GRADE CHILDREN

DISSERTATION

Presented to the Graduate Council of the
North Texas State University in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF EDUCATION

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Denton, Texas

August, 1970

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CHAPTER I

INTRODUCTION

Children respond to puppets in several ways--they speak to them, give them directions, obey their commands, laugh at them, and invest them with forbidden actions--with no fear of reprisal, because the puppet did it, not themselves. Virginia Murphry (12) stated that the puppet theatre is the most ancient form of dramatic representation; therefore, man has been responding to and through puppets for centuries.

The advent of puppetry as educational media evidenced recently on television is refreshingly new. Bil Baird (2), noted puppeteer, wrote in his book, The Art of the Puppet, that puppetry in American education has lagged behind other countries of the world. Puppeteers are subsidized by their governments in most European Communist countries. India has used trained squads of puppeteers to go into villages to help with specific civil problems. In Mexico, Robert Lago (2, p. 238) established a permanent puppet theatre in the 1930's to work with teachers who used puppet techniques to improve literacy, aid in fostering better public health, and spread civic and historical information.

Sesame Street (9), an educational television program designed to reach millions of pre-school and primary-aged children, has utilized puppetry through the talents of Jim Henson and his "Muppets." Children across the nation have watched delightfully as one of these puppets ate through the letter "W" to form, instead, a "V," thereby being entertained while learning the shapes and names of the letters of the alphabet.

Dunn and Smith (6), authors and editors of the Peabody Language Development Kits, include puppets among the choice of materials for use by the teachers in the language lessons. These puppets are intended primarily as stimulators, but they suggest that paper or sock puppets may be made for, or by, each of the children for their use.

A reading project for the Educational Research Council of Greater Cleveland by Willford (15) featured the use of puppets by teachers to solve a problem crucial to the conditions of learning: that is, how to correct the incorrect reading responses of a child without causing him to withdraw or view the teacher as a constant source of threat because she corrects his mistakes. Each participating teacher used a puppet for correcting the mistakes made during oral reading. It was felt that using a hand puppet during the reading

lesson to signal children about mistakes, to encourage them to make another attempt, and to approve of their success placed the teachers in an advantageous position of being a positive force in the educative process without having to fully assume the negative role of corrector of mistakes.

Other uses of puppets in classroom situations are for expressive experiences, or creative dramatics. During art classes children are encouraged to construct various types of puppets and then to present these creations in some manner. The re-telling of previously read, or original stories, summarization of research reports, and recounting of study trips are opportunities for puppet utilization.

To research the effectiveness of puppets as educational media, one turns to the numerous studies of the language usage of culturally disadvantaged children. These children lack sufficient oral language skills to succeed in public school situations. Educators are diligently seeking ways to assist these children. Tutorial services, smaller classes, additional classroom personnel, family education, multi-media materials, field trips and other first-hand experiences are being provided to combat the cultural and environmental differences of these children.

Operation Head Start (8) is a federally-funded program incorporating many of the aforementioned means of assisting the disadvantaged child. While research supports the Head Start programs as being successful, in that mean IQ's are raised, Chasteen (3) reports disadvantaged children are still behind in language development.

Disadvantaged children become conscious of their language differences when placed in structured classroom situations. As a result of this self-consciousness, many children develop various defensive behaviors to protect themselves. Among the most common is the reluctance to participate in any oral language activity. Puppetry should encourage these children to participate, as it appears that children are less inhibited while using puppets. Children may experiment with new language usage with little or no fear of making mistakes, if the puppet is doing the talking.

Statement of the Problem

The problem of this study was to evaluate the effectiveness of the use of puppets in oral language development of culturally disadvantaged first-grade children participating in a Follow Through program. An experimental study was conducted requiring the experimental subjects to use puppets when responding during oral language lessons. Four Follow

Through first-grade classrooms participated, forming an experimental group of thirty-eight children, with a control group of thirty-nine. Thirty-two oral language lessons, extending over a four-month period, were provided for the two groups, differing only in that the experimental group children were provided puppets for use with the lessons.

Two aspects of oral language usage were considered in an effort to determine whether disadvantaged children participating in oral language lessons, with the use of puppets, would display significantly greater oral language development than would disadvantaged children participating in oral language lessons without the use of puppets. These aspects of oral language considered were extent of verbalization and vocabulary development.

Purposes of the Study

The purposes of this study were 1) to ascertain the effectiveness of puppets with instructional media in oral language development of culturally disadvantaged first-grade children, and 2) to derive the implications of this effect for instructors, teachers, and volunteers working in programs for the culturally disadvantaged child.

Hypotheses

The hypotheses for this study were the following:

1. Culturally disadvantaged children participating in oral language experiences using puppets will exhibit significantly greater oral language development when compared to culturally disadvantaged children participating in oral language experiences without the use of puppets when compared on each of seven aspects of extent of verbalization:

- a. Larger total number of words in transcript.
- b. Larger number of phonological units.
- c. Greater length of phonological units.
- d. Larger number of communication units.
- e. Longer length of communication units.
- f. Smaller number of maze units.
- g. Shorter length of maze units.

2. Culturally disadvantaged children participating in oral language experiences using puppets will exhibit significantly greater oral language development when compared to culturally disadvantaged children participating in oral language experiences without the use of puppets in three aspects of vocabulary development, as follows:

- a. Diversity: type-token-ratio.
- b. Frequency--number of words used in first 1,000 most commonly used words in the English language.

c. Expressions of tentativeness, supposition, hypothesis, or condition.

3. Culturally disadvantaged children participating in oral language experiences with the use of puppets will exhibit significantly greater mean gains in intelligence quotients when compared to culturally disadvantaged children participating in oral language experiences without the use of puppets when evaluated by the use of the Peabody Picture Vocabulary Test (5).

Significance of the Study

Oral language skills are essential to higher mental processes. Reasoning, judgment, memory and generalizations are abilities Strickland (13) states are necessary in academic and social endeavors. These higher mental processes are the results of thought processes, and oral expression represents thought. Yet, language skills are influenced by a child's environment and cultural experiences. Therefore, it follows that the culturally disadvantaged child is often retarded in language skills, and as a result, experiences repeated failure in academic attempts.

Special programs for pre-school and primary-aged disadvantaged children abound on the federal, state, and local levels. These are attempts to provide the necessary experiences

for later school success. Many of the programs are designed to promote oral language growth, through less formalized, or structured experiences. One such program is Project Right Track, or Follow Through (7), which provides field trips, creative play, small group work, and learning centers, among other approaches, for intellectual, language, attitudinal, societal arts and skills development with disadvantaged children. The classes do not follow a predetermined curriculum written as a course of study, but attempts to meet the individual needs of a particular class. Support for such approaches are recognized by authorities, such as Deutsch (4), who stated the following:

It is possible that the oft-stated conclusion on the verbal impoverishment of the child from the culturally deprived home is most striking when he is presented with highly structured tasks, and that verbal enrichment techniques, which take advantages of his freer flow of language in more unstructured situations, may help him meet his language and scholastic potential (4,p.76).

The disadvantaged child is keenly aware of any differences in his speech, or verbal skills, when he enters formal education. Anderson (1) warns that care must be exercised in how a child is helped with his language problems. If one is directly critical of the language of the child, the child may interpret this that it is himself that is inferior, not his language. Since it has been noted that puppets pose no

threat to children when used for correcting reading mistakes, it appears that puppets reduce individual self-consciousness. Puppets are stimulators, or motivators, that encourage pupils to participate in oral language activities. The response of children to and with puppets is beneficial in bridging the gap between teacher and child by providing non-threatening, semi-structured situations wherein oral language skills are practiced.

Definition of Terms

1. Culturally disadvantaged children are defined as those children who are economically deprived. Primary emphasis of Title I programs is poverty. Children who are on free lunch programs, or whose families are on either city, county, or state welfare rolls are eligible for special programs. Children whose families receive money from the state through the Aid for Dependents Program are also included (7).

2. Puppets are small figures representative of either human or animal characters, not to be confused with marionettes, or string puppets.

3. Oral language is defined as the spontaneous, spoken utterances made by children during structured interviews. Responses will be recorded on magnetic tape and segmented

into phonological units; communication units, and mazes according to a scheme developed by Loban (10).

a. Phonological unit is the intonation pattern of sounds made by the human voice; it is judged by the countours of inflection, stress and pause in the subjects' voice; it is characterized by a definite drop in pitch; it occurs between silences, and is noted by a clear-cut termination of an utterance.

For example: I am going to the store.# I will buy candy.#

b. Communication units are subdivisions of the phonological unit, identified by the semantic meaning which is being communicated, constituting a grammatical independent clause with any of its modifiers.

For example: I am going to build a flying saucer/ but I can't think how yet./

c. Language mazes are a series of words, or parts of words which do not add up, either to meaningful communication, or to structural units of communication. They are unattached fragments, or a series of unattached fragments, which do not constitute a communication unit, and are not necessary to the communication unit. They may be described as a case of many hesitations, false starts, and meaningless repetitions.

For example: (Uh,) I saw a hunter program last Sunday. (Uh, an he, uh wah-h, he uh, uh,) and he shot a deer.

(1) Length of the maze unit is the number of meaningless utterances occurring before, between, or after a communication unit.

(2) Number of maze units results when tabulating the maze units occurring within the total utterance.

4. Extent of verbalization has to do with the sheer magnitude of verbal responses in terms of number of words in transcript, number of phonological units, length of phonological units, number of communication units, length of communication units, number of mazes and length of mazes.

5. Vocabulary is comprised of words uttered by subjects in response to interview situations. Three aspects considered are diversity, frequency, and expressions of tentativeness.

a. Diversity is the number of different words (types) in ratio to the total number of words (tokens), tabulating the first 100 words, yielding a TTR score (type-token-ratio).

For example: I see a bird. I see a cat. I see six men.

The above contains seven types, twelve tokens, yielding a ratio of .58.

b. Frequency of occurrence is determined by the frequency of usage of each word in the English language as found in the Thorndike-Lorge list of 30,000 words (14).

c. Expressions of tentativeness are statements of supposition, hypothesis, or a condition, a definite measure of language maturity.

For example: It could be a squirrel, but I'm not sure.

6. Follow Through is a federal-assistant program designed to carry the benefits of Head Start into the regular school system. It offers graduates of Head Start continued special attention, not only in the field of instruction, but in a wide range of other areas--medical, dental, nutritional, psychological, and social. It involves the parents and community in program activities. It also provides in-service training for professional and non-professional staff (7).

Limitations of the Study

Generalizations and conclusions derived from this study will be limited to disadvantaged first-grade pupils who attended the Follow Through program in a large metropolitan school system.

Basic Assumptions

For this study, it was necessary to make these assumptions:

1. The technique used to analyze oral language development is valid for purposes of this study.
2. An analysis of samples of children's oral language usage can be measured as an indication of the oral language development.
3. The recorded responses of the subjects during the interview sessions is representative of the subject's oral language proficiency.

Procedure for Collecting the Data

Four first-grade classrooms from within the Fort Worth Independent School District participating in the Follow Through program were randomly selected and randomly assigned to form two groups. The experimental design was parallel-or-equivalent group technique as described by Mouly (11). Intact classrooms were used for the study due to administrative regulations.

Samples of oral language usage were collected from each subject during pre- and post-test interviews. A test measuring hearing vocabulary, which yielded a verbal intelligence quotient, was also administered.

Each oral language interview followed the same procedure. The examiner began by encouraging the subject to become talkative--by asking questions concerning home, pets, friends, etc. Then the first of seven pictures was shown, as a warm-up picture to familiarize the child with the routine. Each subject was shown the same pictures, in the same order, and encouraged to respond to them by telling what was happening in each of the pictures.

As each child began responding to the pictures, following the warm-up picture, the interview was recorded on magnetic tape. Only those responses directly related to the pictures were tabulated. The magnetic tape of each child's responses were preserved and transcribed. The transcribed tapes were tabulated through the use of a linguistic technique devised by Loban (10). Both pre- and post-testing followed the same procedures.

In an effort to prevent the examiner from knowing if the child being interviewed, or tested, was from the experimental or the control group, the class rolls of the participating groups were combined and the subjects randomly assigned for interview sessions.

Upon completion of the pre-testing, the groups began receiving special oral language experiences, thirty to

forty-five minutes, twice weekly, for a four-month period. The experimental group participated through the use of puppets. Lesson plans for the oral language experiences were formulated to fit into the existing program. The regular classroom teacher conducted these lessons in an effort to demonstrate that specialized personnel was not needed for the use of puppets.

Instruments for testing the subjects consisted of a non-standardized oral language interview and the Peabody Picture Vocabulary Test, Form A and Form B (5). The oral language interview test required the subjects to individually respond to picture stimulus cards, orally, during taped, private interview sessions. Two sets of verbal-stimulus pictures were used, following a procedure established in studies of Loban (10) and Strickland (13). The fourteen pictures chosen for the study were from twenty that had been selected by a panel of first-grade teachers as appealing to children. Pictured were children, pets, and other persons engaged in verbally stimulating activities. A pilot study was conducted, using a group of children with similar disadvantaged backgrounds, with the original twenty pictures, to determine which of the twenty were the most verbally stimulating. These fourteen pictures were then divided into two

groups of pictures, with each group having equal stimulus value. The two resultant sets of pictures were then designated as being the pre-test set or the post-test set, to prevent using a group of more verbally stimulating pictures for the post-test.

The Peabody Picture Vocabulary Test is a standardized intelligence test designed to measure hearing, or receptive, vocabulary. It was administered by the examiner reciting a list of words, singly, while the testee matched it to one of four possible pictures. The testee could indicate his choice either verbally, or by pointing to the selected picture. The test is not a timed test and required no more than fifteen minutes to administer and score. Mental ages, intelligence quotients, and percentile ranks were derived by consulting the appropriate tables in the manual. Form A of the PPVT was administered in the pre-test, Form B, for the post-test.

Treatment of the Data

The classrooms participating in this study were assigned and could not be reconstructed. Therefore, it was necessary to treat the data collected by analysis of covariance. This technique is a procedure which permits statistical adjustment to be made on the dependent variable in order to compensate

for any lack of equivalence between the groups in independent variables, as found in Mouly (11).

Treatment was made by analysis of covariance for each of the following variables:

- a. Number of words in transcript.
- b. Number of phonological units.
- c. Length of phonological units.
- d. Number of communication units.
- e. Length of communication units.
- f. Number of maze units.
- g. Length of maze units.
- h. Vocabulary diversity.
- i. Vocabulary frequency.
- j. Number of expressions of tentativeness.
- k. Intelligence quotients as recorded by PPVT.

All statistical findings will be reported. The null hypothesis will be rejected at the .05 level of significance.

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CHAPTER II

RELATED LITERATURE

The Varied Uses of Puppetry

The effective use of puppetry with children has been reported in a variety of publications, ranging from articles in daily newspapers to research reports in psychological journals. Many of the articles are reports of innovations of educators and psychologists that do not meet the test of controlled experimentation. They deal with puppetry as it is utilized in teaching, creative expression, remedial work, and play therapy sessions.

Puppetry, as used in play therapy, was reported by several psychologists. Bender (3) pioneered puppetry in group therapy with disturbed children of the Children's Ward in Bellevue Hospital, New York City. Here puppetry was included in a group of activities chosen to assist children in handling anxiety, guilt, and feelings of aggression or affection. Large groups of children viewed puppet plays and were encouraged by the adult staff to enter freely into the spirit of the plays by advising, reviling, or encouraging the different characters--affording the children an excellent

opportunity to express hostile or atypical emotions openly, without fear of punishment, without feeling guilty, with the encouragement of fifty or so other children about them, and with approval of the adult staff members in the audience.

Following Bender's precedent, Woltmann (35) produced puppet plays for the Bellevue children, having the puppet characters involved in varied problem situations. Again, the patients were encouraged to advise or warn the puppets in any way they wished. These enactments were then followed by group discussion and analysis of the contents. It was felt that the children gained insight into their problems, and encouragement from listening to the other children. Later, individual problem areas were explored and the child involved was encouraged to act out his dilemma. Woltmann based his diagnostic and therapeutic puppet technique on the assumption that each child identifies himself in a manner, specific to him, with the puppet characters and with the actions portrayed by them, thereby gaining insight into their behavior.

One of the live puppet plays, Rock-A-Bye, Baby, produced at Bellevue by Haworth and Woltmann (16) was later filmed and used in a research project of Haworth's (15). The film depicted a family of puppets, with the older boy-puppet, Casper,

manifesting behavior characteristic of sibling rivalry. How Casper responded to the new responsibility of caring for himself, to not disturbing the baby, and to sharing parental love and attention provided the information for questions formulated by the therapist to measure guilt, anxiety, and obsessive tendencies. It was also found that the problem story presented in the film lent itself to meaningful differentiation in terms of superego attainment.

Haworth conducted a pilot study of the film with two separate sample groups, each composed of approximately 250 children in grades kindergarten, first, third, and fifth. The film was shown to groups of children numbering nine to fifteen. In smaller groups of two or three, they were questioned by therapists, using an Analysis Sheet for Rock-A-Bye, Baby (16, p. 184) to record and evaluate each child's responses. Age and sex norms were determined, and deviant responses which were given by less than ten per cent of the cases were incorporated into various indices. In summarizing the study, Haworth stated that the use of filmed puppet presentations could elicit meaningful material from young children, and through the use of these films, large numbers of children could be assessed in a short period of time-- serving possibly as an initial screening device in school settings.

The Detroit Group Project, in which a variety of play techniques were tested with children in therapy groups, featured spontaneous drama as one technique. Horwitz (19) reported a puppet play as one technique employing spontaneous drama. Participants in the enactments were six disturbed children, girls and boys, ages ranging from eight to ten. Two important implications resulted when assessing the role of the therapist during the enactments. It was found that if the enactments portrayed were of extreme anti-social, hostile, aggressive, or deviant behavior, and if the therapist remained passive and non-directive, the subsequent guilt and anxiety experienced by the children could cause severe psychic damage. The therapist must assume responsibility for the direction of the enactments, for as Horwitz stated, "Mere acting out and release of emotions are not in themselves integrating" (18, p. 257).

The second implication was that spontaneous drama presented an opportunity wherein the therapist could weigh the fantasy material presented for transference implications. For an example, Horwitz described the enactments of a disturbed boy, reportedly suffering an Oedipal complex, who used a puppet as a father-figure in a drama that also incorporated the use of a small nude statue left in the play room by a

preceding art class. In the boy's enactments, the puppet father-figure, during a trip to New York City, began to climb the Statue of Liberty (symbolic of the mother). After reaching the top, he began to slide down the front of the statue (symbolic of sexual intercourse), slipped and "accidentally" fell to his death (symbolic of the death-wish harbored for the father). A mock funeral was held for the father-puppet (symbolic of being permanently rid of the father), thereby leaving the son free to possess the mother (18).

Transference implications constitute the rationale for the inclusion of puppets as part of the equipment for furnishing a play therapy room, as advocated by Axline (1) and Ginott (13). Indeed, Ginott (13) expressed the following:

Puppet play is a popular medium of expression in child therapy; it affords children a safe channel of communication. The anonymity of the puppet allows children to express ideas and feelings freely. What a puppet says is his responsibility, not the child's. Through the talking puppets, children reveal their hostile and tender feelings toward parents and siblings (13, pp. 66-67).

In addition to a family of puppets, Ginott recommends other puppet types, such as alligators, wolves, lions, fairies, etc. Children who are too fearful to vent open hostility toward a father-puppet, may slay a lion, which is representative of the father. By shifting responsibility to the wild

animals, the child can express his own feelings in safety. Wish fulfillment may be acted out with the fairy puppet, also.

Puppetry's usefulness is not limited to therapy sessions with emotionally disturbed children. It has also been useful in elementary classrooms with "normal" children. The exceedingly versatile puppet affords teachers multiple opportunities for enriching classroom experiences.

Successful kindergarten puppetry experiences were described by Hyde (20), Benary (2), and Gardner (12). Initially puppets were used as attention getting devices. Later, they provided a medium for teaching special lessons-- such as dental hygiene (2). Donning hand puppets, this teacher told about foods necessary for healthy teeth and gums. Daily dental care and occasional visits to the dentist were included in the presentation. Concluding the lesson, the puppets wielded an oversized toothbrush to demonstrate proper brushing strokes. Elements of comedy were included during the presentation, to the delight of the children.

From observing the teachers manipulation of puppets, the children progressed to using puppets themselves. They began with inexpensive commercial hand puppets. Later, small hands were busily engaged in making puppets of their own

creation. Storytelling, singing, recitations, and role-playing furnished opportunities for the children to use their puppets.

Guidance was provided through a reading project, which involved the fourth-grade pupils of Sister Rose (30). The students were asked to select stories from the previous semester readers and prepare them for puppet plays. This was an attempt to motivate the withdrawn, excessively shy, self-conscious children in a satisfying group enterprise that would call for active participation, cooperation, mutual appreciation of differences, and the delegation and/or assumption of responsibility. Sister Rose's (30) conclusions at the close of the project were as follows:

1. The children found a need for fluent and expressive oral reading.
2. Shy children for the moment forgot their shyness and had the thrill of facing an audience without their usual fear and self-consciousness.
3. They learned to work together, respecting the opinion of others, and agreeing when another's ideas surpassed their own.
4. They found delight and fun in sharing ideas and materials (30, p. 44).

Speech therapist, De Lano (7), with a puppet character, Red Samson, screened elementary school children for possible speech defects. Each child, in an interview, was merely asked

to repeat, "Hello, Red Samson." Listening carefully to this short phrase, speech problems were detected, as it contained all of the most commonly mispronounced speech sounds--"l," "s," and "r." The reported merit of using the puppet was that it put the children at ease, taking their minds off the student-teacher relationship.

Reporting a procedure wherein literature and puppetry were combined by fourth graders was Etter (10). James Thurber's Many Moons was the story selected. The story was read, then work began on writing a script, building a stage, constructing the needed puppets, writing music for the background, and practicing the reading of parts. Etter reported social skills were in evidence as the children worked together for a common purpose. Originally begun as a creative enrichment project in the language arts (English, reading, writing, and spelling), the endeavor overlapped other skill areas, such as music and art, stagecraft, personality building, and group dynamics.

An investigation of the creativity of young children, as revealed in puppet construction and performances was conducted by Neff (27). The theory underlying the study was that a more complete estimate of a child's creative potential could be made if he were given the opportunity to employ both visual

and verbal modes of expression in a single experience. Each child participating was encouraged to engage in a creative, projective play, which included 1) free play, 2) a scene which the child was asked to act out, and 3) an open-ended story which he was asked to complete. The performances were recorded on tape and reportedly judged in a manner similar to the Ask-and-Guess Test by Torrance (34)--which yields a score from factors such as sensitivity to problems, ideational fluency, spontaneous flexibility and originality. The resulting scores of the puppet performers correlated significantly with those achieved by the same subjects on the Torrance tests, which involved verbal creativity.

Self-confidence for class participation was developed in a first-grade project of Sister Marilyn (25) through the use of puppetry. Slower children had often been labeled bashful and timid because of their reluctance to speak to other members of their class. The observation was made that possibly the children were not merely timid, but were conscious of a lack of vocabulary--with subsequent lack of ease in expression. Direct correction of incorrect English usage curbed spontaneity and inhibited responses. Sister Marilyn's ingenuity created a puppet character, Goosey English, who was first used by herself as an example of technique in puppet

manipulation, then later by the children. It was found that the children became more inventive as they gained self-control and confidence in using the puppet. Correcting the puppet was acceptable to the children, especially when having a show at the same time--much easier than finding "oneself" corrected!

Crawford (6) working with shy children, also credits puppetry with providing a chance for change with reticent children--they suddenly find they can speak and act for the puppet with a freedom not achieved beforehand. Crawford reports best results are obtained when the children help develop staging and dialogue for shows. Choosing the right words and saying them clearly and distinctly acquires new importance. As Crawford stated,

Children enjoy being heard when they are the center of attraction, and they gain speech confidence when hidden behind the stage talking for their puppets. They have no fear of making mistakes because they are able to transpose themselves completely into the character they are manipulating (6, p. 24).

Puppetry as a language tool with disadvantaged children, who were also visually handicapped, was tried by Reich (29). The class consisted of eight visually handicapped children, ranging in chronological age from ten to thirteen, with IQ scores of seventy-five to one hundred nine. None of the children had any organic articulatory speech defects.

their speech was characterized by incomplete words, sound substitutions, and poor syntactical structure. Reich reported that these poor speech patterns carried over into their reading, writing, and spelling, so that all the language subjects bore the grammatical and articulatory errors that were present in the student's oral communication.

Reich suggested that the class construct puppets and present a play honoring the tercentenary of their town. The children developed a plot dealing with a sick girl in Newark, circa 1668, who was restored to health through a kind Indian's knowledge of medicinal herbs. Research to support the plot was conducted at the local museum, through readings in social studies texts, and other supplemental sources.

After the children completed constructing their puppets, roles were created for each child. No part was recorded in writing, and no precise script was followed--the children being left free to improvise as needed.

The results Reich reported were greatest in the improvement of oral language:

Since language clarity was essential to the program, the children had a specific reason for desiring to improve their speech. Under the spur of an audience, the children can be encouraged to speak effectively--concentrating on the clarity of their ideas, pronunciation and choice of vocabulary (29, p. 622).

In addition, Reich reported that during free play time they would talk to each other through their puppets. Reich surmised from this that puppetry could prove beneficial as a role-playing technique, by providing the disadvantaged child with an opportunity to define and face his problems. Also, this would provide the teacher a vehicle for gaining insight into pupil's anxieties.

The preceding discussion reports but a few of the studies on the usefulness of puppetry. From these reports comes the assumption that puppetry is a valuable tool for use in the elementary classroom. Of special application to this experimental study, are the reports of Rose (30), Reich (29), and Crawford (6) concerning puppetry as facilitating language development among the disadvantaged children. Due to the dual nature of this experimental study, it is necessary to include related research in the area of the language needs of the disadvantaged.

Oral Language and the Disadvantaged

The disadvantaged student has been the subject of intensified research in relatively recent times. Primarily, this may be attributed to compulsory integration, but the civil rights movement, in general, has revealed multiple needs of all impoverished peoples--including many minority groups:

the Negro, the American Indian, the Mexican-American, and the Appalachian whites, to name a few. Schools across the nation acknowledging the prevailing picture of repeated academic failure among these disadvantaged pupils, proceeded to analyze this phenomena. In defining the students in question, Kaplan stated:

Whether we choose to call these pupils disadvantaged, culturally deprived, or economically impoverished, they usually exhibit two characteristics: they are from the lower socio-economic groups in the community and they are notably deficient in cultural and academic strength. The latter characteristic is usually, but not always, a consequence of the first factor. The parents of these children have simply been unable to provide the quality of background, outlook, initial grounding, and readiness for formal learning that middle- and upper-class parents provide as a matter of course (22, p. 71).

The scholastic requirements confronting these children places heavy emphasis upon language skills--standard English language skills. Ellis and Havighurst (9) point out, though, that deprived children are not without verbal skills. They use numerous words, communicating within their class structure remarkably well, but these are not the words used in school. "Success in school is based on a facility with middle class vocabulary, not with the language of the underprivileged" (9, p. 43).

The handicap of insufficient command of middle-class, standard English is easily observed among bilingual students.

Very often no language facility adjustment is made when computing their test scores--on tests which were administered, in a very real sense, in a foreign language! Lowered test scores often result. Holland (18), in a study with thirty-six Spanish-speaking children, recommended for psychological testing due to academic failure, attempted to measure the degree that bilingualism invalidated intelligence scores. English, being an alien tongue to these children, is taught as a second language to the most severely language retarded during their entire first year in school.

Holland began by first translating the Weschler Intelligence Scale for Children into Spanish. Later, during the individual testing sessions, the examiner proceeded to first ask the question at hand in English. If the child did not comprehend, the question was then phrased in Spanish. Scoring yielded a level of functioning in English language skills, as well as in Spanish language skills. The two scores were then compared, with the difference between the two yielding a "language barrier" score. Results of the study revealed that over 40 per cent of the subjects had moderate to serious language problems. Holland reported the following:

Other factors held constant, there is usually a direct relationship between the amount of a student's language barrier and the degree of difficulty he has in classroom achievement. In one case in which the child could

barely speak English the language barrier reached twenty points. The language barrier was considered very serious in a total of eight cases, serious in seven, and moderate in eighteen. Only three cases had no language barrier (18, p. 341).

Ethnic background, as in the case of the bilingual child, fosters language problems, which result in poor school adjustment, but ethnic background alone does not cause learning problems. Deutsch (8) and Lesser (23), in separate studies, found that social class level was more a predictor of school achievement. This factor, language and subcultures, was reviewed extensively by Cazden (5). Repeatedly it was found that in all the studies, children of upper socio-economic status are more advanced in terms of school achievement, regardless of ethnic background. In four ethnic groups, Jewish, Negro, Chinese, and Puerto Rican, the middle-class children were significantly superior to the lower-class children. It was stated that social class position had more effect on mental abilities for Negro children than in the other groups. Middle-class children's scores resembled each other more than the scores of the lower-class children.

It was also found that on "verbal ability" Jewish children ranked first, Negroes second, Chinese third, and Puerto Rican fourth. Possibly the further removed one is from

English as the "at home" language, the greater the English usage handicap.

Deutsch's (8) research concerning social class status and language development required the administering of a "Verbal Survey." Two hundred and ninety-two children of various racial and social class groupings, including Negro and white, lower- and middle-class children were chosen to form a core sample (the full study included over two thousand children). It was found that of forty-two measures of language ability tested with the first-grade subjects, six of the measures correlated with race alone, nineteen with socioeconomic status alone, and two with both race and socioeconomic status. This supports other findings that social-class status is a factor involved in language development.

The detection of social class as a factor in language development infers that there are definite, distinctive, and observable characteristics in the language usage between the various social stratifications. The language of low-socioeconomic children is characterized by limited vocabularies, incorrect or inappropriate word usage, poor syntactical sentence patterning, and redundant word usage. These characteristics are supported by research conducted by John (21), Templin (31), Deutsch (8), and Loban (24).

A study by Thomas (32) comparing the oral language ability of children living in a low socio-economic area involved fifty Negro and fifty white kindergarten children. The length of sentences, structure of language, grammatical errors, parts of speech used and extent of vocabulary was compared. It was found that Negroes tended to rate lower on all measures, with some evidence of sex differences appearing in the tests. The Negro group, as a whole, committed errors in verb-subject agreement, used more slang, and omitted or misused parts of speech to a greater degree than did high socio-economic groups of children.

Loban (24) reported a longitudinal study concerning the use of language with school children. The study involved 338 subjects tested during their kindergarten year, and again each successive year through grade six (the study is being continued beyond this point, but K-6 was reported when completed). Included within the sample were socio-economic representatives of low-, middle-, and upper-class groups. Sex, racial background and mental ability were factors also considered. Findings concerning the differences of language usage, as between socio-economic groups, and applicable to this study, were reported as follows:

- 1) On the total number of words in transcript, the high subgroup exceeded the low group in every year of the study.
- 2) The high group, yearly, consistently exceeded the low by the average number of words for each unit of communication.
- 3) The average number of words per maze increased for the low subgroup; while the high subgroup and total group showed a steady decrease in the number of mazes and words in mazes for the first four years.
- 4) Although the total group and high subgroup did in fact increase their incidence of mazes, in relation to "total number of words," they continued to have a less proportionate number of mazes than the low subgroup.
- 5) The high group always maintained its lead on amount of communication units.
- 6) Those in the high group were more fluent . . . spoke with less language tangles . . . and gave evidence of gaining greater control over fluency.
- 7) On a measure of frequency of less commonly used words, based on tallying the words used against Thorndike's Teacher's Word Book (33), the low group showed a higher incidence of using the most common, frequently appearing words.
- 8) Those with more language ability manifested a greater variety and exactness of vocabulary as determined by Type-Token-Ratio Measurement.
- 9) Expressions of tentativeness were found to appear more often in the high sub-group . . . tentativeness is a measure of language maturity (24, pp. 32-41, 53).

Considering the findings concerning the differences in language usage, as between socio-economic groups, Bernstein (4) places language usage in two categories. The category

characteristic of the lower-class is designated as "public" language, while the upper-class language pattern is deemed "formal" language. The public language is typified by grammatically simple, and often unfinished sentences, poor syntactical form, simple and repetitive use of conjunctions, etc. This he attributes to the development of a "restrictive" language code, while the middle-class has developed an "elaborate" code. These codes are the results of environmental experiences and are perpetuated within the culture.

The language that a child learns in his home is the language he will bring to school. Havighurst (14) noted that this is one of the primary difficulties of the disadvantaged child. He proposes that there is an imbalance between the language of the low-class child and the classroom teacher--considering that teachers are generally of the middle-class and use the language appropriate to that class, the "elaborate" or "formal" code. Therefore, children with "restricted," "public" language are often confronted with more language than they are able to encode. It is the assumption of Havighurst that this imbalance will become larger, with the resultant problems, as the child progresses in school. This has been found to be true and is the basis

for the label "cumulative deficit phenomenon" as described in a study by Deutsch (8, p. 359).

Briefly, the study resulting in the discovery that a child with language limitations often develops even greater deficiencies was associated with Negro status, lower socio-economic status, and greater disadvantage as assessed by a deprivation index. A possible explanation of this phenomenon, is found in the following:

The child from a disadvantaged environment may have missed some of the experiences necessary for developing the verbal, conceptual, attentional, and learning skills requisite to school success. These skills play a vital role for the child in his understanding of the language of the school and the teacher, in his adapting to school routines, and in his mastery of such a fundamental tool subject as reading. In the absence of the development of these skills by the child there is a progressive alienation of teacher from child and child from teacher. In the school the child may suffer from feelings of inferiority because he is failing; he withdraws or becomes hostile, finding gratifications elsewhere (8, p. 338).

This phenomena is not one confined to American disadvantaged children, but has been detected among Canadian Indians living on government reserves. Mickelson (26) found that the Indian communities did not stress oral language; functioned without benefit of full literacy; and exhibited many of the characteristics of the educationally disadvantaged, such as the following:

1. Lack of self-confidence.
2. Paucity of educational stimulus in the home.
3. Inadequate physical care and undernourishment.
4. Impoverishment of language skills.

The University of Victoria in cooperation with the Department of Indian Affairs during the summer of 1968 sponsored a four-week prekindergarten, preschool, and orientation enrichment program for Indian children living on four reserves in the southern region of Vancouver Island. In planning the objectives for the program, pretests were administered, and from the results, teachers designed activities which would specifically guide the children in desired verbal patterns, rather than allowing undifferentiated verbalization. The study reported a dramatic improvement in the children's verbal patterns, emphasizing that intensified programs can benefit children's language growth. Mickelson stressed,

Unless such language deficiencies are assessed and corrected, they are likely to continue in the verbal repertoire of the child. Deficiencies cannot be counted on to improve simply as a function of time and undifferentiated school experience (26, p. 190).

Recognizing the need for intervention programs, educators have responded with programs such as Head Start (17) and Follow-Through (11). Learning centers, such as the Institute for Developmental Studies (28) are currently engaged in

action research in an effort to establish proven teaching strategies that "will work" in alleviating the learning problems of the disadvantaged. All such programs place heavy emphasis upon verbal skills, as these skills are prerequisite to the mastery of other school skills. Due to the self-conscious awareness of language differences among the disadvantaged (14), it appears imperative to develop methods and/or tools that will release these children from their inhibitions and allow them the freedom to explore and experiment with various language styles--without damaging their self-concept. The aforementioned merits of puppetry suggests one method worthy of assessment.

Summary

The data presented in this chapter suggest that puppetry is an effective teaching tool in varied learning situations. The freedom with which children respond to and with puppets affords teachers and psychologists a medium for reaching children who are inhibited, shy, or withdrawn--traits typical of disadvantaged children with language problems. As an extension of the "self," or "alter-ego," the puppet gives children an opportunity to try out new roles, new ways of behaving, and most importantly, new ways of talking.

The restricted language patterns of the disadvantaged was reported as a primary cause of school maladjustment and failure for these children. Their language problem increases and is perpetuated due to their avoiding verbal tasks in school. With the increasing demands for verbal skill, the disadvantaged child is in dire need of some tool or method that will enable him to experience verbal success. The previously reported success with puppetry suggests that here is a tool worthy of further research.

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CHAPTER III

ORGANIZATION AND DESIGN OF THE STUDY

The problem of this study was to evaluate the effectiveness of the use of puppets in oral language development of culturally disadvantaged first-grade children. The solution of this problem required the measurement and comparison of various aspects of the oral language of two groups of pupils, both before and after a four-month experimental period. Group One, consisting of thirty-eight disadvantaged first-grade pupils, served as the experimental group and received oral language lessons which included the use of puppets. Group Two, consisting of thirty-nine disadvantaged first-grade pupils, served as the control group and received oral language lessons, excluding the use of puppets. The groups were pre- and post-tested, measuring two aspects of oral language development. Included, also, was a pre- and post-test measuring verbal intelligence, as indicated by receptive vocabulary. The results of these tests were quantitatively analyzed and tested for significance of difference.

Rationale for analyzing the effectiveness of the use of puppets with culturally disadvantaged children was defended on the basis of these observations:

1. The prevalence of the inclusion of puppets in classroom teaching.
2. The lack of controlled experimentation on the effectiveness of the use of puppets.
3. The tremendous need of a method that is effective in increasing the verbal skills of the culturally disadvantaged.

Description of the Subjects

The subjects participating in this study were seventy-seven disadvantaged first-grade pupils enrolled in a Follow Through program. At the time of the study, approximately 700 pupils, assigned to thirty-six classrooms in six Title I schools, were enrolled in Follow Through (2). Geographical location of the schools involved was in a large, western city of Texas.

Two schools were randomly selected from the six involved in Follow Through for this study. Two classrooms in each of these two schools were in turn randomly assigned to either the experimental or control group, making a total of four participating classrooms.

Of the seventy-seven subjects involved in the study, thirty-eight were in the experimental group. In this group were nineteen boys and nineteen girls. The control group, with a total of thirty-nine subjects, had twenty-three boys and sixteen girls. Class assignment at the beginning of the school year had been determined by alphabetical order, regardless of sex, race, or mental ability, in an effort to establish heterogeneous groups. At the time of the pre-testing period, the average age of the group of children was six years, ten months. Presented In Table I are the mean ages for each group.

TABLE I

COMPARISON OF THE EXPERIMENTAL AND CONTROL GROUP
MEANS ON THE CHRONOLOGICAL AGE VARIABLE

Groups	Number in Sample	Mean Age	S.D.	F
Experimental Group	38	82.0526	4.8989	
Control Group	39	82.3333	5.08658	0.0587

$F (df 1,75) = 3.98$ for significance at the .05 level.

Consultation of Table I reveals no significant difference between the experimental and control group on the variable of chronological age.

Administrative regulations prohibited manipulation of the pupils within these classrooms, therefore, this study was with intact groups. Statistical consideration for this factor was met through the use of analysis of covariance (5) and will be discussed further in this chapter under the topic Procedures for Treating the Data.

Among the seventy-seven subjects were representatives of three cultural sub-groups, White, Latin, and Negro. Illustrated in Table II is the distribution of these representatives by race and sex within the two participating schools.

TABLE II
BETWEEN SCHOOLS DISTRIBUTION OF SUBJECTS BY RACE AND SEX

Subjects	Experimental Group			Control Group		
	White	Latin	Negro	White	Latin	Negro
School I						
Boys	5	4	3	3	5	2
Girls	3	5	0	2	6	1
School II						
Boys	0	0	7	1	0	12
Girls	0	0	11	0	0	7
Total	N = 38			N = 39		

Consultation of Table II reveals that in School I, Latins were in the majority, having 51 per cent of the total group, while Whites totaled 33 per cent, and Negroes 15 per cent, which is reflective of the surrounding neighborhood's racial distribution. School II, located in an almost 100 per cent Negro neighborhood, was characterized by 98 per cent Negro enrollment.

Background information on the subjects, other than a mimeographed eligibility slip for Follow Through, was not available. No questionnaires or tests were permitted to be used with Follow Through participants. Special permission from the program director was required before the tests involved in this study could be given. Eligibility for Follow Through was determined on the basis of poverty--as established by welfare rolls, free lunch rolls, and obvious need. In addition to meeting the poverty requirement, pupils enrolled in Follow Through must have attended Head Start.

Follow Through is a federal-assistance program designed to continue the intervention efforts of Head Start (3). Classes are kept as close as possible to twenty pupils. Each class has one full-time teacher, a teacher helper, and a part-time mother-helper. In addition to instruction, the

children receive medical, dental, nutritional, psychological, and social help.

There is no predetermined written curriculum guide for the teachers to follow, but rather four areas of development are considered daily in meeting individual needs of a particular class. These broad areas are (1) Intellectual Development, (2) Language Development, (3) Development of a Sound Attitudinal Base, and (4) Development of Societal Arts and Skills (2).

Oral language skills are emphasized due to the existing verbal inadequacies of the pupils. This is done primarily through modeling by the teachers and adult-helpers throughout the daily routine. Multiple opportunities in relatively unstructured settings are provided to encourage the pupils to use their existing verbal skills and acquire new ones. The students are not without verbal ability, but their usage is typical of Riessman's (6) description of the language of the deprived, having considerable facility with informal or public language, but lacking in appropriate "school" verbal skills. The Latin children participating in the study had an obvious double-handicap of coming from economically deprived backgrounds and experiencing a language barrier, also. Spanish is the preferred language spoken in their homes,

and these children were not truly bilingual. Therefore, with all the children, existed an obvious need for English oral language development.

Description of the Experimental Methods and Materials

This study required that two groups of subjects participate in an experimental study over a four-month period during the spring semester of first grade. Thirty-two oral language lessons were presented twice weekly during this period.

The organization and design of the study required oral language lessons, or experiences, which could be used either with or without the inclusion of puppets, and yet remain basically of equal import. This was accomplished by writing dual oral language lesson plans, using identical materials and following the same sequence of presentation and procedure up until the portion of the lesson that required pupil participation. During this portion of the lesson, the procedures differed only in that the experimental group used puppets as they participated, while the control group participated without the use of puppets. Oral language lessons presented included opportunities to dramatize stories, to learn and to recite nursery rhymes, to hold discussions, and to utilize

oral language skills in a variety of situations. Time required for each lesson was approximately thirty to forty-five minutes.

Materials provided for the study included the oral language lesson plans, individual hand puppets for each member of the experimental group, a puppet stage for each experimental group, and a flannel board and materials for each participating class.

The oral language lesson plans were planned and written specifically for this study due to a lack of prepared lessons being available. Guidelines for the preparation of the oral language lesson plans were determined through 1) the review of curriculum guides, 2) the review of research concerning oral language needs of the disadvantaged, and 3) personal interviews with various members of the professional staff involved in the Follow Through program. The lessons were written and submitted to the participating teachers to judge their usefulness within the existing goals of the Follow Through program.

The puppets used during the experimental period were inexpensive plastic hand puppets. Each experimental group was provided a mixed variety of twenty-seven different hand-puppets, representing human, animal, and cartoon characters.

A few of these hand-puppets were so constructed that they had movable mouth parts.

Both the experimental and control groups were provided flannel boards and materials, for use in several of the oral language lessons--offering visual stimulation and enrichment to the lessons. For example, as the teacher read a folk story, with each character's introduction in the story, a "flannel" picture representative was placed on the flannel board. Careful attention was given to the order of placement, so as to assist the children when recalling the sequence of events of the story.

The puppet-stage was provided for the children to use as they felt the need. Not all of the lessons required the use of the puppet-stage, but the children were free to enter the puppet-stage for responding as they chose. The puppet-stage was scaled to the small stature of the first graders, with a curtained window in the front flap to hide the "puppeteer" from the view of the audience.

Selection of the teachers for this study was prohibited due to existing class assignments. Efforts to avoid biased sampling results were made by the random selection of the schools and the random assignment of the participating classrooms to either the experimental or control group.

The procedures to be followed during the experimental period were discussed in joint meetings with both the control group and the experimental group teachers in attendance, in an effort to assure that each lesson would be presented in as like a manner as possible. Brief weekly meetings were held when the language lessons were delivered to the teachers. No special training was provided for the teachers, concerning the use of puppets, due to the simplicity of technique involved in hand-puppet manipulation. The puppets were merely offered to the children at the appropriate time during the oral language lessons. Each child was encouraged to don a puppet while participating, but this was left as a matter of choice. At no time was a child required to participate with a puppet.

Procedure for Collecting the Data

For purposes of this study it was required that evidence of oral language usage of each of seventy-seven subjects be obtained, preserved, and analyzed in pre- and post-testing sessions. In addition, the subjects were also evaluated by the use of the Peabody Picture Vocabulary Test (1), as a measure of verbal intelligence. Available background information concerning the subjects was confined to the date of birth, sex, race and tenure in public school.

During both the pre- and post-testing sessions, each subject was interviewed individually and his spoken responses recorded on magnetic tape to preserve his voice. Recordings were made in school settings familiar to the subjects. Each interview followed a standardized form which entailed the following:

1. Encouraging the child to become "talkative" by engaging him in light conversation concerning home, pets, friends, dress, games, etc.

2. Introducing the child to the structure of the interview by presenting a warm-up picture, chosen to elicit verbal responses, and telling the child, "Look at this picture, (child's name spoken). What do you think is happening? (Pause) Can you tell me more? (Pause) Is there anything else? (Pause) Can you tell me more?"

3. Presenting the six pictures in numbered order and questioning the child on each, terminating the description only when it was obvious he would not contribute more.

4. Encouraging the child throughout the interview with such remarks as, "Good. You're doing fine. That's right."

Only responses directly related to the pictures were transcribed and analyzed.

Initially, twenty pictures were chosen and judged appropriate by a committee of first-grade teachers. The pictures

were then tested in a pilot study to differentiate verbal-stimuli value. From these, two sets of seven pictures each were chosen for this study. Prior to the testing sessions, the sets were assigned to either Test Session I or Test Session II.

To prevent bias during the interview sessions, the subjects within each school were randomly assigned interview numbers, preventing the interviewer from knowing if the child being interviewed was from the control group or the experimental group.

The oral language samples were transcribed into typewritten form. These transcriptions were then segmented according to the linguistic form used and reported by Loban (4). Analysis of the data required quantitative tabulation of seven aspects of extent of verbalization and three aspects of vocabulary development. The aspects measured and compared were found by Loban to differentiate between high and low oral language proficiency students.

In addition to the taped interviews, the Peabody Picture Vocabulary Test, Form A (pre) and Form B (post), (1), was administered. This is an individually administered test which yields a measure of hearing vocabulary, reflective of intelligence. This test consists of a series of pictures,

four per page, from which the subject is required to indicate the appropriate picture matching a stimulus word presented orally by the examiner. The PPVT was included in this evaluation as it provided a measure of hearing vocabulary--as children hear and understand a great deal more words than they are able to use.

Procedures for Treating the Data

Due to the inability to experimentally control possible existing variables within the groups selected for this study, analysis of covariance was the statistical treatment used to compare significance of difference between the mean gains of the individuals tested. Analysis of covariance for each of eleven variables was calculated, using the pre-test as the co-variant. The eleven variables compared were as follows:

1. Number of words in transcript
2. Number of phonological units
3. Length of phonological units
4. Number of communication units
5. Length of communication units
6. Number of maze units
7. Length of maze units
8. Vocabulary diversity
9. Vocabulary frequency

10. Number of expressions of tentativeness

11. Intelligence quotients as recorded by PPVT

The analysis of covariance yielded an F-ratio which was used for determining statistical significance at the .05 level. Tables in McNemar (5) were consulted.

Summary

In this chapter, the first-grade subjects who participated in this study have been described. Information related to the study, such as distribution of subjects based on race, sex, and economic status was reported. Included was a description of the experimental method and materials used, as well as procedures for collecting and analyzing the data.

In the next chapter, the data will be presented under headings related to the hypotheses being tested. Tables will be included wherever helpful.

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CHAPTER IV

PRESENTATION AND ANALYSIS OF THE DATA

Presented in this chapter is an analysis of the data comparing two groups of disadvantaged first-grade children participating in an experimental study on the effectiveness of the use of puppets in oral language development. Seventy-seven subjects were in the total group, with thirty-eight in the experimental group and thirty-nine in the control group. Pre-existent intervening variables, such as may be found with intact groups, was statistically controlled through the statistical treatment, analysis of covariance, using the pre-test scores as the constant. This statistical treatment is used to test significance of difference for mean gains. Consulting tables in McNemar (3, p. 433), reveals that with seventy-seven subjects, an F-ratio of 3.98 is required to reject the null hypothesis at the .05 level of significance.

Results of the study are presented in the order of the hypotheses as found in Chapter I. Hypothesis I required the quantification of seven aspects of extent of verbalization, while Hypothesis II required quantification of three measures of vocabulary development. Evidence of verbal intelligence,

as measured by the Peabody Picture Vocabulary Test (1), was required for Hypothesis III. Between group analysis was computed on each of the independent variables, as stated in the three hypotheses. Each hypothesis will be presented separately.

The First Hypothesis

It was stated in the first hypothesis that there would be a significant difference between the means in seven extent of verbalization aspects with the means of the group participating with puppets exceeding the means of the group participating without the use of puppets. The treatments of seven extent of verbalization variables is presented in Table III. An F-ratio of at least 3.98 was required for significance at the .05 level.

TABLE III

COMPARISON OF THE EXPERIMENTAL GROUP, USING PUPPETS,
AND THE CONTROL GROUP, NOT USING PUPPETS, IN
SEVEN EXTENT OF VERBALIZATION VARIABLES

Extent of Verbalization Variable	Pre-Test	Post-Test	Adjusted Mean	F
1a Total Words in Transcript				
Experimental	96.03	103.92	112.47	
Control	144.15	115.02	106.70	0.307

TABLE III---Continued

Extent of Verbalization Variable	Pre-Test	Post-Test	Adjusted Mean	F
1b Number of Phono. Units Experimental Control	15.18 18.87	12.11 13.74	12.47 13.39	0.862
1c Length of Phono. Units Experimental Control	5.26 6.14	5.88 5.70	5.91 5.67	0.174
1d Number of Comm. Units Experimental Control	16.76 23.03	16.95 18.54	18.24 17.28	0.445
1e Length of Comm. Units Experimental Control	5.36 6.05	5.97 6.17	6.05 6.08	0.017
1f Number of Maze Units Experimental Control	6.95 8.49	6.11 6.92	6.40 6.64	0.051
1g Length of Maze Units Experimental Control	1.99 2.47	2.06 2.24	2.11 2.19	0.091

F (df 1,74) = 3.98 for significance at the .05 level.

The results showed no variable reaching the .05 level of significance; therefore, the null hypothesis was accepted for Hypothesis I in its entirety.

Examination of the means for the experimental and control groups on Variable 1a, Total Words in Transcript, Table III, reveals that the pre-test mean of the control group was considerably greater than the pre-test mean of the experimental group. A test of significance between the means confirmed a significant difference at the .01 level, as is shown in Table IV.

TABLE IV

SUMMARY OF THE ANALYSIS OF VARIANCE BETWEEN THE MEANS OF THE EXPERIMENTAL AND CONTROL GROUP FOR VARIABLE 1a, TOTAL WORDS IN TRANSCRIPT

Source of Variance	Sum Squares	df	Variance Est.	F
Between Groups	44580.3555	1	44580.3555	8.4722*
Within	394648.1250	75	5261.9727	
Total	439228.5000			

*F (df 1, 76) = 7.03 for significance at the .01 level.

Analysis of variance reported in Table IV was computed between the means of the experimental and control groups, which are reported in Table III. The experimental group mean was 96.03, while the control group registered a mean of 144.15. Additional analysis of the data, as presented in Table VII (p. 75), showed no significant difference between

the two groups in verbal intelligence. It would be improbable that, among groups having no significant difference in verbal intelligence, there would be a significant difference in verbal usage skills. Therefore, further analysis of the data was required in order to locate a probable explanation for this phenomena. The post-test means for Variable 1a, Total Words in Transcript, as found in Table III, displayed a considerable decrease, or loss, for the control group-- indicating the possibility of an inflated pre-test mean.

To isolate the scores responsible for this possibility, it was necessary to compare the means for each group participating in the study. This was accomplished, again, through analysis of covariance, with the results listed in Table V. Included in this table is Variable 3, which is verbal intelligence scores as measured with the Peabody Picture Vocabulary Test.

In Table V, Variable 1a, Total Words in Transcript, each of the pre-test means of the control groups are shown to be greater than either of the pre-test means of the experimental groups, with the most disproportionate pre-test mean recorded for Control Group 2. Throughout Table V, the pre-test means for this group remained greater than for any other group, although the pre-test means recorded on Variables 1c, 1e,

TABLE V

COMPARISON OF THE MEANS OF THE FOUR GROUPS PARTICIPATING IN
AN EXPERIMENTAL STUDY ON THE ORAL LANGUAGE DEVELOPMENT
OF DISADVANTAGED FIRST-GRADE CHILDREN

Extent of Verbalization Variable	Pre- Test	Post- Test	Adjusted Mean	F
1a Total Words in Transcript				
Experimental 1	92.95	96.35	106.05	
Experimental 2	99.44	112.33	119.73	
Control 1	116.84	107.32	108.57	
Control 2	170.10	122.35	104.79	0.436
1b Number of Phono. Units				
Experimental 1	15.75	11.75	11.96	
Experimental 2	14.56	12.50	12.93	
Control 1	17.47	11.74	11.64	
Control 2	19.80	15.65	15.14	2.883*
1c Length of Phono. Units				
Experimental 1	5.62	6.42	6.42	
Experimental 2	4.86	5.29	5.35	
Control 1	5.69	6.30	6.30	
Control 2	6.58	5.13	5.07	1.53
1d Number of Comm. Units				
Experimental 1	17.20	15.50	16.58	
Experimental 2	16.28	18.56	20.01	
Control 1	19.47	16.42	16.60	
Control 2	26.40	20.55	17.99	1.40
1e Length of Comm. Units				
Experimental 1	5.11	6.06	6.23	
Experimental 2	5.64	5.87	5.89	
Control 1	5.86	6.39	6.35	
Control 2	6.23	5.96	5.81	1.145

TABLE V--Continued

Extent of Verbalization Variable	Pre-Test	Post-Test	Adjusted Mean	F
lf Number of Maze Units				
Experimental 1	6.30	5.35	5.90	
Experimental 2	7.66	6.94	6.97	
Control 1	7.53	7.84	7.92	
Control 2	9.40	6.05	5.40	1.91
lg Length of Maze Units				
Experimental 1	2.31	2.21	2.20	
Experimental 2	1.63	1.88	2.00	
Control 1	2.31	1.94	1.93	
Control 2	2.63	2.52	2.44	0.89
<hr/>				
PPVT Intelligence Quotients				
Experimental 1	76.50	73.95	73.61	
Experimental 2	69.44	80.61	84.87	
Control 1	79.68	81.58	79.16	
Control 2	77.80	82.15	80.95	5.63**

F (df 3, 72) = 2.74 for significance at the .05 level.

F (df 3, 72) = 4.07 for significance at the .01 level.

*Significant at the .05 level.

**Significant at the .01 level.

and lg, concerned with length of the various units under Extent of Verbalization, were not significantly different

from those of the other groups. This indicated that while Control Group 2 recorded more total words in transcript than the other three groups, their fluency patterns were no different. This finding, coupled with no significant difference in verbal intelligence scores for Control Group 2, supports the assumption of an inflated pre-test mean for this group on Variable 1a, Total Words in Transcript.

Recalling pertinent information concerning the testing sessions, etc., the interviewer could recall no difference in the procedures for testing which would account for the inflated mean reported for Control Group 2. The possibility exists that due to the preliminary discussion of the experimental procedures with the teachers involved, that the teacher of Control Group 2 encouraged her group to "talk a lot" to the interviewer during the pre-testing session. Taped results of these interviews with Control Group 2 supports this view, offering evidence that these subjects, after spontaneously describing the "action" suggested in the stimulus pictures in answer to the question, "Can you tell me what is happening in this picture?", began to name objects within the picture in a very rigid and structured manner. The interviewer inadvertently encouraged this by asking, "Can you tell me more?" Rephrasing the question to, "Yes, but

can you tell me anything more that is happening?" was not understood, and these children continued to point out separate articles of clothing and other minutiae within the picture until the possibilities were exhausted.

Review of the post-test taped interviews suggested that Control Group 2 was also coached on how to respond during the post-test session, but with a reversed affect, resulting in disproportionately lowered means. Reasons for this occurrence may have been due to the fact that during delivery of the oral language development lessons, it was necessary to discuss the oral language needs of the disadvantaged--such as ending sounds, correct syntax, clear pronunciation, etc., thereby creating an awareness among the teachers of the differences between public, or non-standard English usage, and formal, or standard English usage. All oral language lessons were written with provisions made to encourage use of standard English.

Shortly after beginning the post-test in School 2, the interviewer began to detect that several of the children were not responding spontaneously, but were very restrained and careful of their speech. No amount of cleverness on the part of the interviewer would detract these children.

Listening to the tapes revealed that, without exception, the children responding in this manner were identified as being from Control Group 2, lending support to the belief that they had been coached prior to the testing session. For this group, there was a significant decrease in total words in transcript, number of phonological units, number of communication units, and number of maze units. Length of phonological units, length of communication units, and length of maze units were not significantly different from the means of the other participating groups. Again, this supports the feeling that there was no significant difference in the fluency of the groups, but that Control Group 2 had pre-test scores which were reflective of an inflated mean for the variable, Total Words in Transcript.

It would appear that concerning extent of verbalization skills, that neither the experimental group, nor the control group showed any significant mean gains during the period of this study. The null hypothesis that there would be a significant difference between the groups was accepted for Hypothesis I.

The Second Hypothesis

It was stated in the second hypothesis that there would be a significant difference between the means of the groups

participating in this study in three aspects of vocabulary development, with the means of the group participating with the use of puppets exceeding the means of the group participating without the use of puppets. The treatment of the three aspects of vocabulary development is presented in Table VI. An F-ratio of at least 3.98 was required for significance at the .05 level.

TABLE VI

COMPARISON OF THE MEANS OF THE EXPERIMENTAL GROUP, USING PUPPETS, AND THE MEANS OF THE CONTROL GROUP, NOT USING PUPPETS, IN THREE VOCABULARY VARIABLES

Vocabulary Variables	Pre-Test	Post-Test	Adjusted Mean	F
2a Diversity				
Experimental	0.62	0.61	0.60	
Control	0.55	0.58	0.59	0.269
*2b Frequency of Less Common Words				
Experimental	0.12	0.10	0.10	
Control	0.12	0.09	0.09	0.196
2c Expressions of Tentativeness				
Experimental	0.34	0.58	0.58	
Control	0.31	0.41	0.41	0.773

F (df 1, 74) = 3.98 for significance at the .05 level.

*Percentage of words not found in first 1,000 most commonly used words in the English language (4).

The results reported in Table VI indicate no variable reaching the .05 level of significance; therefore, the null hypothesis was accepted for Hypothesis II in its entirety.

Diversity, Variable 2a, concerns the size of the subjects vocabulary. A larger vocabulary generally elicits a more diversified style in speaking than does a smaller vocabulary. Within this study, there was no evidence that the size of the subject's vocabularies changed during the experimental period. Neither the experimental group nor the control group means changed significantly between the pre- and post-test time period. Therefore, it is assumed that there was no significant gains within either group, nor was there a significant difference between the groups on the variable concerning vocabulary diversity.

Vocabulary usage, as measured by frequency of occurrence of less common words, was reported in terms of the percentage of words not found in the first 1,000 most commonly used words in the English language as listed by Thorndike (4). As seen in Variable 2b, Table VI, there was no significant difference between the groups, nor was there any significant gains for either group.

Loban (2, p. 58) stated that expressions of tentativeness proved to be a function of language which distinguishes

between effective and ineffective users of language. With the sample of children chosen for this study, there were so few examples of statements of tentativeness to render the data insignificant. Regardless of the insufficient occurrence of expressions of tentativeness, there was still no significant difference between the groups on this measure of vocabulary development.

Among the three variables measuring vocabulary development, there was no significant difference between the groups. Also, in this area of oral language development, the total group displayed no significant gains in vocabulary development during this study.

The Third Hypothesis

It was stated in the third hypothesis that there would be a significant difference between means of the results of the Peabody Picture Vocabulary Test, with the mean of the group participating with puppets exceeding the mean of the group participating without the use of puppets. The treatment of the PPVT scores are presented in Table VII. Again, an F-ratio of at least 3.98 was required for significance at the .05 level.

The difference between means for the Peabody Picture Vocabulary Test did not reach the required .05 level of

significance; therefore, the null hypothesis was accepted for Hypothesis III, as shown in Table VII.

TABLE VII

COMPARISON OF THE MEAN OF THE EXPERIMENTAL GROUP, USING PUPPETS, AND THE MEAN OF THE CONTROL GROUP, NOT USING PUPPETS ON THE PEABODY PICTURE VOCABULARY TEST

<u>PPVT</u> Results	Pre-Test	Post-Test	Adjusted Mean	F
Intelligence Quotients				
Experimental	73.16	77.11	78.83	0.396
Control	78.72	81.87	80.20	

$F (df 1, 74) = 3.98$ for significance at the .05 level.

While there was no significant difference reported between the experimental and control groups on the variable, verbal intelligence, consulting Table V reveals that there was a significant difference between the means of the four groups participating in the study, which was significant at the .01 level, with Experimental Group 2 having the greatest mean gain. This is not to imply that this increase was due solely to the influence of the oral language development lessons, in view of no significant increase among the other participating groups, but is pointed out due to it being significantly greater than the other recorded mean gains.

Non-Hypothesized Data

Analysis of non-hypothesized statistical data concerning inter-action effect, stratified according to sex and race, failed to yield any significant differences between the experimental and control groups of the three racial groups represented, or between the sexes. Tables listing this data are found in Appendix E through S.

Other findings, not appropriate to quantitative analysis, but of importance concerning the usefulness of puppets in oral language development, was obtained through personal observations made and reported by the cooperating teachers.

It was reported that the introduction of the puppets in the classrooms was greeted with a great deal of delight and enthusiasm. Quite often the children requested to use the puppets during times other than the twice-weekly scheduled lessons. These early lessons were highly structured, with very little independent participation required of the children. As the lessons progressed, they became increasingly abstract, more unstructured, and required more independent and individualized participation from the children. As the lessons became more abstract, the children participated with less enthusiasm.

The group of children which used the puppets most effectively and enthusiastically were the more alert, highly verbal children. Indeed, the shy and/or slower children resisted participating except when they were involved in some whole group activity or while working with a close friend. From this, it would seem that the puppets were utilized best among children with pre-existing verbal skills.

Also reported was the observation that when the children were highly motivated and discussing appealing topics with which they had had much experience, the puppets proved to be a hindrance while verbalizing, and the children would remove the puppets. This was especially noted during a lesson involving a discussion of pets and another lesson wherein the children were to discuss a recent field trip.

When asked to tell an original story about an imaginary "creature," most of the children said only a few sentences, which mainly described the physical appearance of the creature. Very few were able to involve the creature in a story. One teacher repeated the lesson and found some improvement. One child, reported to have a "vivid" imagination was able to serve as a model for the others. After listening to him, the other children followed his example. This teacher felt this

was possibly one of the most successful lessons; however, the less verbal children did not participate at all.

Reports concerning the use of the puppet stage by the children were mostly negative. The children were reluctant and somewhat fearful in this situation. Once inside the stage, they spoke so quietly that the audience could not hear, and it was necessary to equip the puppet stage with a microphone.

Summary

In this chapter has been presented the statistical data comparing the effects of puppets on the oral language development of culturally disadvantaged first-grade children. Analysis was presented on each of three hypothesis concerning aspects of oral language development. The null hypothesis was accepted on each of these hypotheses. Hypothesis I concerned extent of verbalization, Hypothesis II concerned vocabulary diversity, while Hypothesis III was concerned with verbal intelligence as measured by use of the Peabody Picture Vocabulary Test.

Additional non-hypothesized data were discussed. Statistical treatment of inner-action within the groups also supported the null hypothesis. Tables listing this data are included in Appendix E through S.

Teacher observations, during the treatment period, formed the basis for non-quantitative data, discussing the use of puppets in oral language lessons. It was stated that the puppets appeared to be best utilized among children with pre-existent verbal skills, and that the shy and/or slower children reacted negatively to the puppets.

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CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

This study was designed to evaluate the effectiveness of the use of puppets, using oral language development as the criterion for evaluation. Oral language lends itself to quantitative analysis, as studies by Loban (4), Strickland (6), and others verify. Also, current emphasis placed upon the oral language needs of the disadvantaged presented a specific area for researching the effective use of puppets (Deutsch, 1; Reissman, 5; and John, 3). Therefore, it was the intent of this study to analyze the effectiveness of the use of puppets in the oral language development of culturally disadvantaged first-grade children.

Summary

The purpose of this study was to determine the effectiveness of the use of puppets on the oral language development of culturally disadvantaged first-grade children. Two groups of culturally disadvantaged first-grade children participated in thirty-two oral language lessons, extending

over a four-month experimental period. The lessons provided were identical, with one exception, and that being that the experimental group participated with the use of puppets, while the control group excluded the use of puppets from the lessons. Within the experimental group were thirty-eight subjects, with nineteen boys and nineteen girls. The control group had thirty-nine subjects, of which twenty-three were boys and sixteen were girls.

Oral language samples for each of the subjects participating in the study were collected in individual pre- and post-test interviews, which were recorded on magnetic tape. Analyzing the transcribed tapes by a linguistic scheme devised and used by Loban (4) and Strickland (6), provided the necessary evidence for measuring the oral language development of each subject during the study. Also included for comparison were the pre- and post-test scores on the Peabody Picture Vocabulary Test (2), which is a measure of verbal intelligence.

It was hypothesized that the group of children who were in the experimental group during the four-month experimental period would demonstrate significantly greater development in various aspects of oral language when compared to a control group of children also participating in the study. The

following hypotheses were formulated and investigated by statistical analysis for this study:

1. Culturally disadvantaged children participating in oral language experiences using puppets will exhibit significantly greater oral language development when compared to culturally disadvantaged children participating in oral language experiences without the use of puppets when compared on each of seven aspects of extent of verbalization:

- a. Larger total number of words in transcript.
- b. Larger number of phonological units.
- c. Greater length of phonological units.
- d. Larger number of communication units.
- e. Longer length of communication units.
- f. Smaller number of maze units.
- g. Shorter length of maze units.

2. Culturally disadvantaged children participating in oral language experiences using puppets will exhibit significantly greater oral language development when compared to culturally disadvantaged children participating in oral language experiences without the use of puppets in three aspects of vocabulary development as follows:

- a. Diversity: type-token-ratio.
- b. Frequency--number of words used in first 1,000

c. Expressions of tentativeness, supposition, hypothesis, or condition.

3. Culturally disadvantaged children participating in oral language experiences with the use of puppets will exhibit significantly greater mean gains in intelligence quotients when compared to culturally disadvantaged children participating in oral language experiences without the use of puppets when evaluated by the use of the Peabody Picture Vocabulary Test (2).

When comparing the total groups on each of the three hypotheses, the following were found:

1. For Hypothesis I, Extent of Verbalization, the results showed no variable among the seven tested, reaching the .05 level of significance; therefore, the null hypothesis was accepted for Hypothesis I in its entirety.

2. For Hypothesis II, Vocabulary Development, the results showed no variable among the three tested, reaching the .05 level of significance; therefore, the null hypothesis was accepted for Hypothesis II in its entirety.

3. For Hypothesis III, Verbal Intelligence, as measured by the PPVT, there was no significant difference between the mean gains of the two groups; therefore, the null hypothesis was accepted.

While no significant difference was found between the means of the experimental and control groups for Hypothesis I, the control group pre-test mean on Variable 1a, Total Words in Transcript was significantly higher than the experimental group's pre-test mean. The post-test mean for the control group, though, registered a decrease. Further analysis of the data alluded to the possibility of an inflated pre-test mean for the control group. No significant difference between the means of the control group and experimental group on the verbal intelligence variable further substantiated this possibility. Statistical comparison of each classroom participating, review of the testing procedures, and listening again to the recorded interviews supplied evidence that Control Group 2 had been coached prior to both testing sessions, indirectly influencing the recorded means.

Length of Communication Units, Variable 1e, was considered representative of the fluency pattern of the subjects, and on this variable there was no significant difference between the groups on either the pre- or post-test means. Also, Length of Maze Units, Variable 1g, had no significant difference between the groups. Control Group 2 experienced very little difference on pre- and post-test scores for both of these variables, which lent additional support to the

possibility of coaching, in that the patterns of verbalization remained relatively constant, regardless of the number of words used while responding.

Analysis of the data, as pertaining to inner-action effect, failed to reveal any significant differences between the experimental and control sub-groups. It was noted throughout the statistical analysis that while there was no significant difference between the experimental and control groups, there also appeared to be no significant gains for either group during the period of time of the study. One exception to this finding was located in a comparison of the individual classrooms. In this comparison there was a highly significant difference between the means of the four groups on the variable measuring verbal intelligence. Experimental Group 2 recorded the largest post-test adjusted mean, with the greatest increase in pre- and post-test means, which would signify that the significance of difference between the groups resided in this group. Prerequisite restrictions for experimental control prevent the assumption being made that the increased mean for Experimental Group 2 on the verbal intelligence variable was directly associated with the effects of the use of puppets in oral language development experiences.

Other non-hypothesized data, derived from teacher observations, revealed that while the puppets were warmly accepted initially, the children appeared to tire of them after approximately eight weeks. After this time period, whenever the children were highly motivated to verbal responses, it appeared that the puppets were a hindrance. The children would discard or disregard their puppets entirely when caught up in verbally expressing themselves. Also, only the most aggressive and verbal children were able to perform individually before the class with any amount of success. The shy, less verbal child preferred activities with puppets that involved whole group activity, such as reciting nursery rhymes in unison, or to work in small groups with a friend or two.

Few of the children were able to tell creative stories with the puppets until they had attended to a "peer" model several times. Lessons designed to have the children complete partially-told stories also were not successful. It was reported that the children did enjoy having their puppets repeat lines of conversation from stories--if they repeated them in unison.

As a whole, the puppet stage was not successfully used. The children appeared fearful of entering it, and for those

who did attempt to perform from behind the stage, their voices were not projected well enough for the audience to hear them.

Of interest to the study was the fact that the children preferred the puppets with moveable mouth parts. Very few of these were supplied, and it was reported that much dissension resulted among the children over who would use them.

Conclusions

In the light of the evidence and due to the limitations of this study, the following conclusions seem to be justified:

1. The use of puppets in oral language development lessons does not significantly increase the verbalization skills of the participating students.
2. The use of puppets in oral language development lessons does not significantly increase the vocabulary development of the participating students.
3. The use of puppets in oral language development lessons does not significantly increase the verbal intelligence scores, as measured on the PPVT, of the participating students.

Implications

The following implications are derived from analysis of the data collected in this study:

1. The extreme variability within the groups selected may have caused the mean gains to appear insignificant between the groups.

2. The lack of any significant gains among the groups suggests that the groups had reached a plateau in oral language development prior to the study and maintained the plateau throughout the study.

3. The significant gain among Experimental Group 2, which was an all Negro group, suggests that verbal intelligence can be increased in relatively short time periods.

4. Shy, verbally-limited children resist using puppets in activities that require them to perform individually in audience situations.

5. Shy, verbally-limited children prefer using puppets in small group activities.

6. Verbally proficient children can serve as models for puppet utilization for less proficient children.

7. The use of puppets appeared to be a hindrance when the children were highly motivated to communicate with others.

8. The puppets were best used for entertainment or play and were a hindrance during goal directed activities.

9. Young children preferred puppets with moveable mouth parts.

10. The use of a puppet stage with first-grade children is questionable, due to evidence of fearful and restrained behavior.

11. Reliable samples of oral language development are dependent on spontaneous verbal responses.

Recommendations

The evidence presented in this study suggests several recommendations for further investigation concerning the effectiveness of the use of puppets in oral language development of culturally disadvantaged first-grade children. The following recommendations are made:

1. If a similar study is conducted, matched groups should be utilized, rather than intact groups, due to the possibility of extreme variability within intact groups which may render the statistical analysis insignificant.

2. The use of puppets with shy, verbally-limited children should be confined to small group activities which do not focus attention on individual language handicaps.

3. Before initiating any study concerning oral language development using puppets, a comparison should be made of the initial oral language development level of the participants with a reference group to estimate growth potential.

4. Activities planned for utilizing puppets in oral language development should provide the participants adequate provisions for practice and modeling.

5. The use of puppets should not be encouraged if regular means of communication will do as well or better. In other words, if a child would rather express himself without the use of a puppet, he should not be encouraged to use a puppet anyway.

6. If puppet stages are provided for first-grade children, they should be left to decide for themselves if they wish to enter the stage for performing.

7. Puppets should be provided for the children to use spontaneously, rather than continually structuring the children toward the use of puppets.

8. A restudy should be conducted wherein oral language development lessons featuring the use of puppets are presented during special class sessions under the direction of personnel skilled in the use of puppets.

9. An attempt should be made to develop a greater variety of oral language development experiences which feature the inclusion of puppets.

10. A similar study should be made with subjects who are not considered disadvantaged.

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APPENDIX A

TRANSCRIPT: EXPERIMENTAL GROUP NEGRO MALE #50

That,,that,,that mail,,that mailman giving that girl
that mail . . . da,,da, both, two,, both them ladies walking
. . . some grass . . . and shoes . . .

They going to school . . . the teacher learning 'em
. . . They reading books . . . they put they books on the
desk . . . they walk,, they,, they,, they,, they lay down on
the rug . . . the get,, they get, some air out the window. . . .

They jumping rope,playing . . . they got they shoes on
. . . they got they clothes on. . . .

Th, that,,that girls feeding that cat . . . the girl
feeding the cats some milk. . . .

Boy turned the paint over . . . the boy was riding in
the wagon . . . he got, uh, uh, uh, uh, uh a (unintelligible)
for the paintbrush . . . he, he painting,,with a two,,he
painting with a two,,he got the brush in his hand . . . he,,
he in the house . . . on the rug . . . he tried to paint on
the rug. . . .

That dog fixing to go in, in this doghouse . . . the
boy,, the boy painting the dog house . . . and put a tag
on there . . . some weeds growing. . . .

APPENDIX B

TRANSCRIPT: CONTROL GROUP NEGRO MALE #72

A mailman . . . a girl coming to get the mail . . .
and the ladies are walking down the middle of the street . . .
and they talking . . . the mailman telling her, ,,ta',,, the
mailman telling her to give it to her mama. . . .

A boy going to school . . . and then,,,and the teachers
waiting for him . . . and the others children working. . . .

They jumping rope . . . and, these two girls throwing
the rope for the boy. . . .

The girls fixing to give the cats some milk . . . and the
cats drinking it. . . .

The boys painting his wagon . . . and the paint wasting . . .
and the boy put his wagon on the paper . . . and he got sad
when the paints wasted. . . .

The boy paint, he's, the boy painting,,,,,the boy paint-
ing the dog,,,,,,the boys painting the doghouse. . . .

APPENDIX C

TRANSCRIPT: EXPERIMENTAL GROUP NEGRO FEMALE #45

Da,,the girl told the mailman give her the mail . . .
and,,the girl say, "Thank you, mailman."

They, they, uh,, teacher, uh, talking to the boy,, and
the boy was talking back to the teacher . . . and a girl was
walking around right here, going to her desk, looking for
her books,,looking for her books . . . and then she said,,
and then the boy said, "Thank you, Miss Teacher."

They jumping rope,,and the boy couldn't even jump
rope . . . and all the girls could jump it . . . and then he
started to cry . . .

The little girl,,uh, feeding her kittens . . . and the
little girls feeding her kits,,and the kits saying, "Meow,
meow."

The boy was painting,, paint turn,,was fixing paint,,
and the paint turned over . . . and then he fixing paint
wagon. . . .

Then the boy going to put that dog back, back in the
house . . . and the dog say, "No, no." . . . and then the dog

barked at him . . . then he sat up there and almost bit the
boy. . . .

APPENDIX D

TRANSCRIPT: CONTROL GROUP NEGRO FEMALE #73

She's taking the mail . . . and the two ladies walking together . . . they got on their hat . . . and they gots,,, that one got on white,,yellow dress,,that one got on a purple one . . . she has on black shoes,,,orange dress. . . .

She got them book,,,,and holding it like this at school . . . he gots some books,,and he got book,,and gotta learn him something . . . and they're cleaning up. . . .

Jumping a rope . . . there's a leg . . . they have on some white socks, . . . the boy jumping . . . and the one girl jumping,and one girl jumping, and one girl jumping, and two holding the rope for the boy. . . .

She's feeding the kitties . . . One, two, three . . . she got two pony tails and bangs . . . her mama come to her . . . she put her clothes on by herself. . . .

He dropped the paint . . . he,,he was painting, and then he dropped the paint . . . he on the rug. . . .

He,,he,,he painting the doghouse . . . there's the
number on his house . . . he go to sleep there at night . . .
sometimes he brush his teeth . . . sometimes he tak a bath
. . . he forgot to paint . . . it's blue. . . .

APPENDIX E

COMPARISON OF THE EXPERIMENTAL GROUP BOYS, USING PUPPETS,
AND THE CONTROL GROUP BOYS, NOT USING PUPPETS, IN
SEVEN EXTENT OF VERBALIZATION VARIABLES

Extent of Verbalization Variable		Pre-Test	Post-Test	Adjusted Mean	F
1a	Total Words in Transcript				
	Experimental	97.74	89.68	96.50	
	Control	124.26	105.83	100.19	0.095
1b	Number of Phono. Units				
	Experimental	15.79	11.05	11.42	
	Control	18.65	13.09	12.78	0.830
1c	Length of Phono. Units				
	Experimental	5.22	6.56	6.51	
	Control	6.20	5.24	5.29	2.374
1d	Number of Comm. Units				
	Experimental	16.84	15.21	16.38	
	Control	21.13	17.57	16.60	0.014
1e	Length of Comm. Units				
	Experimental	5.24	5.70	5.77	
	Control	5.74	6.00	5.94	0.222
1f	Number of Maze Units				
	Experimental	7.68	5.53	5.30	
	Control	6.91	6.13	6.32	0.963
1g	Length of Maze Units				
	Experimental	2.17	2.22	2.24	
	Control	2.28	2.33	2.31	0.034

APPENDIX F

COMPARISON OF THE EXPERIMENTAL GROUP BOYS, USING PUPPETS,
AND THE CONTROL GROUP BOYS, NOT USING PUPPETS, IN
THREE VOCABULARY VARIABLES

Vocabulary Variables	Pre-Test	Post-Test	Adjusted Mean	F
2a Diversity Experimental	0.65	0.64	0.63	0.816
Control	0.57	0.57	0.60	
*2b Frequency of Less Common Words Experimental	0.12	0.11	0.10	0.001
Control	0.10	0.10	0.10	
2c Expressions of Tentativeness Experimental	0.53	0.58	0.53	0.384
Control	0.13	0.35	0.39	

F (df 1, 39) = 4.08 for significance at the .05 level.

*Percentage of words not found in first 1,000 most commonly used words in the English language.

APPENDIX G

COMPARISON OF THE EXPERIMENTAL GROUP BOYS, USING PUPPETS,
AND THE CONTROL GROUP BOYS, NOT USING PUPPETS,
ON THE PEABODY PICTURE VOCABULARY TEST

<u>PPVT</u> Results	Pre- Test	Post- Test	Adjusted Mean	F
Intelligence Quotients				
Experimental	76.32	78.79	80.48	
Control	80.91	82.70	81.30	0.092

F(df 1, 39) = 4.08 for significance at the .05 level.

APPENDIX H

COMPARISON OF THE EXPERIMENTAL GROUP GIRLS, USING PUPPETS,
AND THE CONTROL GROUP GIRLS, NOT USING PUPPETS,
IN SEVEN EXTENT OF VERBALIZATION VARIABLES

Extent of Verbalization Variable	Pre-Test	Post-Test	Adjusted Mean	F
1a Total Words in Transcript				
Experimental	94.32	118.16	126.57	
Control	172.75	128.25	118.26	0.217
1b Number of Phono. Units				
Experimental	14.58	13.16	13.51	
Control	18.69	14.69	14.27	0.382
1c Length of Phono. Units				
Experimental	5.30	5.20	5.27	
Control	6.04	6.36	6.27	1.564
1d Number of Comm. Units				
Experimental	16.68	18.68	20.05	
Control	25.75	19.94	18.32	0.601
1e Length of Comm. Units				
Experimental	5.48	6.23	6.29	
Control	6.49	6.42	6.35	0.024
1f Number of Maze Units				
Experimental	6.21	6.68	7.24	
Control	10.75	8.06	7.40	0.006
1g Length of Maze Units				
Experimental	1.81	1.89	1.86	
Control	2.75	2.11	2.15	0.864

F(df 1, 32) = 4.15 for significance at the .05 level.

APPENDIX I

COMPARISON OF THE EXPERIMENTAL GROUP GIRLS, USING PUPPETS,
AND THE CONTROL GROUP GIRLS, NOT USING PUPPETS,
ON THE PEABODY PICTURE VOCABULARY TEST

<u>PPVT</u> Results	Pre- Test	Post- Test	Adjusted Mean	F
Intelligence Quotients				
Experimental	70.00	75.42	76.84	
Control	75.56	80.69	79.01	0.372

F(df 1, 32) = 4.15 for significance at the .05 level.

APPENDIX J

COMPARISON OF THE EXPERIMENTAL GROUP GIRLS, USING PUPPETS,
AND THE CONTROL GROUP GIRLS, NOT USING PUPPETS,
IN THREE VOCABULARY VARIABLES

Vocabulary Variables	Pre-Test	Post Test	Adjusted Mean	F
2a Diversity				
Experimental	0.60	0.58	0.58	
Control	0.52	0.57	0.58	0.011
*2b Frequency of Less Common Words				
Experimental	0.12	0.09	0.09	
Control	0.14	0.09	0.09	0.010
2c Expressions of Tentativeness				
Experimental	0.16	0.58	0.53	
Control	0.56	0.50	0.56	0.006

F(df 1, 32) = 4.15 for significance at the .05 level.

APPENDIX K

COMPARISON OF THE WHITE EXPERIMENTAL GROUP, USING PUPPETS,
AND THE WHITE CONTROL GROUP, NOT USING PUPPETS,
IN SEVEN EXTENT OF VERBALIZATION VARIABLES

Extent of Verbalization Variable	Pre-Test	Post-Test	Adjusted Mean	F
1a Total Words in Transcript				
Experimental	81.50	90.00	93.36	
Control	131.50	93.50	89.02	0.031
1b Number of Phono. Units				
Experimental	15.13	10.00	9.83	
Control	17.17	11.83	12.06	2.318
1c Length of Phono. Units				
Experimental	5.13	5.19	5.62	
Control	6.30	6.12	5.55	0.002
1d Number of Comm. Units				
Experimental	16.38	14.50	14.66	
Control	20.83	14.50	14.29	0.016
1e Length of Comm. Units				
Experimental	4.78	6.00	6.10	
Control	6.26	6.43	6.30	0.050
1f Number of Maze Units				
Experimental	5.25	5.13	5.15	
Control	8.33	7.00	6.97	0.786
1g Length of Maze Units				
Experimental	2.14	1.91	1.91	
Control	2.86	1.64	1.64	0.339

F(df 1, 11) = 4.84 for significance at the .05 level.

APPENDIX I

COMPARISON OF THE WHITE EXPERIMENTAL GROUP, USING PUPPETS,
AND THE WHITE CONTROL GROUP, NOT USING PUPPETS,
IN THREE VOCABULARY VARIABLES

Vocabulary Variables	Pre-Test	Post-Test	Adjusted Mean	F
2a Diversity Experimental Control	0.70 0.58	0.65 0.62	0.61 0.67	1.289
*2b Frequency of Less Common Words Experimental Control	0.15 0.10	0.14 0.11	0.14 0.02	2.074
2c Expressions of Tentativeness Experimental Control	0.25 0.50	0.63 0.33	0.62 0.35	0.810

F(df 1, 11) = 4.84 for significance at the .05 level.

APPENDIX M

COMPARISON OF THE WHITE EXPERIMENTAL GROUP, USING PUPPETS,
AND THE WHITE CONTROL GROUP, NOT USING PUPPETS,
ON THE PEABODY PICTURE VOCABULARY TEST

<u>PPVT</u> Results	Pre- Test	Post- Test	Adjusted Mean	F
Intelligence Quotients Experimental	89.25	82.88	84.86	7.106*
Control	93.17	96.33	93.68	

*F(1,11) = 4.84 for significance at the .05 level.

APPENDIX N

COMPARISON OF THE LATIN EXPERIMENTAL GROUP, USING PUPPETS,
AND THE LATIN CONTROL GROUP, NOT USING PUPPETS,
IN SEVEN EXTENT OF VERBALIZATION VARIABLES

Extent of Verbalization Variable	Pre- Test	Post- Test	Adjusted Mean	F
1a Total Words in Transcript Experimental Control	94.89 111.27	101.11 100.9	103.11 99.28	0.037
1b Number of Phono. Units Experimental Control	15.22 16.55	13.11 11.82	13.29 11.68	1.216
1c Length of Phono. Units Experimental Control	5.89 5.65	6.97 6.83	6.98 6.82	0.030
1d Number of Comm. Units Experimental Control	16.78 17.91	16.44 16.64	16.71 16.42	0.013
1e Length of Comm. Units Experimental Control	5.18 5.97	6.04 6.10	6.07 6.09	0.002
1f Number of Maze Units Experimental Control	6.33 8.73	5.44 8.64	6.41 7.85	0.401
1g Length of Maze Units Experimental Control	2.50 2.39	2.69 2.04	2.64 2.08	1.288

F(df 1, 17) = 4.45 for significance at the .05 level.

APPENDIX O

COMPARISON OF THE LATIN EXPERIMENTAL GROUP, USING PUPPETS,
AND THE LATIN CONTROL GROUP, NOT USING PUPPETS,
IN THREE VOCABULARY VARIABLES

Vocabulary Variables	Pre-Test	Post-Test	Adjusted Mean	F
2a Diversity Experimental Control	0.61 0.58	0.60 0.59	0.60 0.59	0.083
*2b Frequency of Less Common Words Experimental Control	0.12 0.16	0.09 0.10	0.09 0.10	0.433
2c Expressions of Tentativeness Experimental Control	66.89 76.27	66.67 76.27	70.16 73.41	0.805

$F(df\ 1, 17) = 4.45$ for significance at the .05 level.

*Percentage of words not found in first 1,000 most commonly used words in the English language.

APPENDIX P

COMPARISON OF THE LATIN EXPERIMENTAL GROUP, USING PUPPETS,
AND THE LATIN CONTROL GROUP, NOT USING PUPPETS,
ON THE PEABODY PICTURE VOCABULARY TEST

<u>PPVT</u> Results	Pre- Test	Post- Test	Adjusted Mean	F
Intelligence Quotients				
Experimental	66.89	66.67	70.16	
Control	76.27	76.27	73.41	0.805

F(df 1, 17) = 4.45 for significance at the .05 level.

APPENDIX Q

COMPARISON OF THE NEGRO EXPERIMENTAL GROUP, USING PUPPETS,
AND THE NEGRO CONTROL GROUP, NOT USING PUPPETS,
IN SEVEN EXTENT OF VERBALIZATION VARIABLES

Extent of Verbalization Variable	Pre-Test	Post-Test	Adjusted Mean	F
1a Total Words in Transcript				
Experimental	102.05	110.43	122.06	
Control	164.05	127.95	116.85	0.123
1b Number of Phono. Units				
Experimental	15.19	12.48	13.01	
Control	20.14	15.23	14.72	1.222
1c Length of Phono. Units				
Experimental	5.04	5.68	5.69	
Control	6.34	5.02	5.00	0.741
1d Number of Comm. Units				
Experimental	16.90	18.10	20.10	
Control	26.18	20.59	18.68	0.437
1e Length of Comm. Units				
Experimental	5.65	5.92	5.99	
Control	6.02	6.13	6.06	0.043
1f Number of Maze Units				
Experimental	7.86	6.76	6.86	
Control	8.41	6.05	5.95	0.436
1g Length of Maze Units				
Experimental	1.71	1.84	1.79	
Control	2.41	2.50	2.54	6.964*

APPENDIX R

COMPARISON OF THE NEGRO EXPERIMENTAL GROUP, USING PUPPETS,
AND THE NEGRO CONTROL GROUP, NOT USING PUPPETS,
IN THREE VOCABULARY VARIABLES

Vocabulary Variable	Pre-Test	Post-Test	Adjusted Mean	F
2a Diversity Experimental	0.60	0.60	0.60	0.607
Control	0.53	0.56	0.57	
*2b Frequency of Less Common Words Experimental	0.11	0.08	0.08	0.292
Control	0.10	0.08	0.09	
2c Expressions of Tentativeness Experimental	0.48	0.57	0.52	0.004
Control	0.09	0.45	0.50	

F(df 1, 40) = 4.08 for significance at the .05 level.

APPENDIX S

COMPARISON OF THE NEGRO EXPERIMENTAL GROUP, USING PUPPETS,
AND THE NEGRO CONTROL GROUP, NOT USING PUPPETS
ON THE PEABODY PICTURE VOCABULARY TEST

<u>PPVT</u> Results	Pre- Test	Post- Test	Adjusted Mean	F
Intelligence Quotients Experimental	69.71	79.38	81.04	0.440
Control	76.00	80.73	79.15	

F(df 1, 40) = 4.08 for significance at the .05 level.

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