

Archives
Closed
LD
175 5.8
A40K
Jh
101

A COMPARISON OF CHILDREN'S PERFORMANCE
ON TASKS OF
LANGUAGE COMPREHENSION

A Thesis
by
ANNA LOUISE HAINES

Submitted to the Graduate School
Appalachian State University
in partial fulfillment of the requirements for the degree of
MASTER OF ARTS

May 1984

Major Department: Speech Pathology

William Leonard Eury
Appalachian Collection

A COMPARISON OF CHILDREN'S PERFORMANCE
ON TASKS OF
LANGUAGE COMPREHENSION

A Thesis

by

Anna Louise Haines

May 1984

APPROVED BY:

C. Hutchinson

Chairperson, Thesis Committee

M. L. Jorgelson

Member, Thesis Committee

Sai D. Mulla

Member, Thesis Committee

C. Hutchinson

Chairperson, Department of
Speech Pathology and Audiology

Joyce V. Lawrence

Dean of the Graduate School

Copyright by Anna L. Haines 1984
All Rights Reserved

ABSTRACT

A COMPARISON OF CHILDREN'S PERFORMANCE ON
TASKS OF LANGUAGE COMPREHENSION. (MAY 1984)

Anna Louise Haines, B. S., Appalachian State University

M. A., Appalachian State University

Thesis Chairperson: Dr. E. C. Hutchinson

The purpose of this study was to compare children's performance on tasks of language comprehension using three modes of presentation: (a) picture-identification tasks, (b) object-manipulation tasks, and (c) best-fit tasks. The 40 subjects were selected from several day care centers and a public elementary school in Watauga County, North Carolina. Each subject was tested individually for four grammatical structures, prepositions, uncontracted copulas, third person regular verbs, and contracted auxiliaries, using these three presentation modes.

The data were analyzed by means of the Friedman Two-Way Analysis of Variance (ANOVA) (Siegel, 1956). Means and standard deviations were also computed. Significant differences occurred in the four-year-old group and between the four-year-old group and six-year-old group across all strategies and for all grammatical structures tested at the

.05 level of significance. Significant differences occurred in the six-year-old group across all strategies and for all grammatical structures tested with the exception of prepositions and third person regular verbs. The six-year-old children performed better than the four-year-old children. The subjects overall performed better on tasks which employed the picture-identification strategy of presentation.

ACKNOWLEDGEMENTS

The author would like to express her thanks to Dr. Edward Hutchinson for his continuous guidance, assistance, and, most of all, for his patience during the writing of this thesis. I would also like to thank Dr. Maurice Joselson and Dr. David Mielke for their contributions to this thesis and for serving on my committee. I would like to thank all the teachers and children who participated in the study. I wish to thank Dr. Deanna Bowman for helping me with the data analysis. I would like to give special thanks to my parents, Mr. and Mrs. Charles Haines, for their never ending words of prayer, encouragement, and support.

TABLE OF CONTENTS

	<u>Page</u>
List of Tables	ix
Chapter	
I. INTRODUCTION	1
Evaluation of Language Comprehension	2
Measuring Language Comprehension	2
Previous Research in Comprehension	5
Statement of the Problem	5
Hypothesis and Subhypotheses	14
Limitations	14
Definitions	14
II. REVIEW OF RELATED LITERATURE	16
Comprehension Versus Production	16
Development of Comprehension	18
Limitations of Comprehension Procedures	18
Subject Variables in Comprehension Testing	22
Test Performance Inconsistencies	23
III. PROCEDURE	25
Subjects	25
Method	25
IV. RESULTS	29
Analysis of Data	30

V. SUMMARY, DISCUSSION, RECOMMENDATIONS	42
Summary	42
Discussion	42
Recommendations for Further Research	44
REFERENCES	46
APPENDIX	
A. List of Test Items	50
VITA	

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1.	Developmental Order of Lexical and Grammatical Language Comprehension	19
2.	Sequence of Morpheme Development	27
3.	Subjects' Performance on Language Comprehension Strategies	31
4.	Friedman Two-Way ANOVA and Mean Ranks	32

CHAPTER I

INTRODUCTION

Comprehending language is a process that involves the attachment of a meaning to a symbol (Carrow-Woolfolk & Lynch, 1982). Comprehension cannot take place until the underlying meaning of the message is interpreted (Carrow-Woolfolk & Lynch, 1982), and does not involve understanding the literal meaning of words or phrases, but is concerned with the understanding of the intended or conveyed meaning of the speaker (Carrow-Woolfolk & Lynch, 1982). Understanding the meaning of language requires the child to interpret the lexicon, or the vocabulary used, and the structure, which consists of the syntax and morphology (Carrow, 1968). Although comprehension may not be the simplest language process, it is one of the most basic (Rosenberger, 1978), complex cognitive skills that is more important than production (Byrne & Shervanian, 1978).

The process of comprehension plays an important role in the communicative exchanges which occur between the speaker and the listener. In order to effectively interpret a spoken or written message, the listener must be able to comprehend or decode the message that is being transmitted. Defective comprehension or production skills significantly lower the

prognosis for a child developing useful speech by the time the child enters school (Rosenberger, 1978).

Evaluation of Language Comprehension

If the child is suspected of having a language comprehension disorder, it is necessary to evaluate hearing acuity (Miller, 1978) to determine if sensory involvement is interfering with comprehension. If auditory involvement is absent, a language evaluation is required to determine the significance or severity of the problem (Carrow-Woolfolk & Lynch, 1982; Miller, 1978). In evaluating language behavior, the child's performance in production and comprehension of language must be evaluated (Darley, 1978; Miller, 1978).

Before the speech-language pathologist can evaluate the child's comprehension abilities adequately, at least three major problems must be solved (Miller, 1978):

(a) defining a response that sufficiently indicates the child's comprehension of the stimuli presented, (b) stating the nature of the assessment procedure and the requirements placed on the child, and (c) specifying the type of stimuli to be assessed.

Measuring Language Comprehension

Speech-language pathologists have been involved in measuring language comprehension for some time (Millen & Prutting, 1979). In recent years, several tests which

measure language comprehension have been developed (Bellugi-Klima, 1971; Carrow, 1973; Lee, 1969). Although these tests measure language comprehension, content (the grammatical feature tested) and task procedure (picture identification, object manipulation) vary in each (Millen & Prutting, 1979). Lee (1969) used the procedure of contrasting sentence pairs along with picture identification. Carrow (1973) also used a picture identification technique, while Bellugi-Klima (1971) used object manipulation.

Of the two major processes which occur during the child's acquisition of the linguistic code -- comprehension and expression of language -- expression has been the subject of more research than comprehension (Carrow, 1968; Waryas & Ruder, 1974). This may be attributable to the fact that expression includes behaviors that are easily observable (Waryas & Ruder, 1974). A major problem in the study of children's language comprehension skills is the difficulty in developing adequate methods for eliciting responses which indicate the extent to which the child's language comprehension is intact (Waryas & Ruder, 1974). An example of the traditional approach to measuring comprehension is to present the child with two pictures, one showing a single boy running and one showing several boys running, and then present (at different times) one of the following commands: (a) "Show me 'The boy is running.'" (b) "Show me 'The boys are running'" (Waryas & Ruder, 1974). This procedure does not allow us to determine if the child controls the rules for

both singular and plural agreement as they influence the verb and the rule for plural marking on the noun (Waryas & Ruder, 1974). It tests whether or not the child comprehends the significance of one or both cues for the number of subject referents (Waryas & Ruder, 1974). The child could rely on the form of the verb to process the singular form and the form of the noun to process the plural form or vice versa (Waryas & Ruder, 1974).

Miller (1978) outlined three commonly used procedures which assess the child's ability to comprehend language: (a) Picture-pointing tasks: This task requires the child to deal with two-dimensional space (pictures) and to recognize the picture representing the stimulus sentence from a group of two, three, or four pictures, (b) Object-manipulation tasks: This task requires the child to deal with three-dimensional space (objects) and to use the objects to reconstruct the stimulus sentence, and (c) Best-fit tasks: This task requires the child to deal with pictures, remember two utterances/sentences, and to make a judgment about which one is a more appropriate expression or best describes the picture. These tasks are labelled as recognition, reconstruction, and judgment procedures, respectively (Miller, 1978).

Adaptations of the picture-pointing task are used in standardized language assessment tools such as the Peabody Picture Vocabulary Test (Dunn, 1965), the Test for Auditory

Comprehension of Language (Carrow, 1973), and the Grammatical Understanding subtest of the Test of Language Development (Newcomer & Hammill, 1977). An adaptation of the object-manipulation task is used in the standardized language assessment tool The Token Test for Children (DiSimoni, 1978). Best-fit tasks have been used by several researchers in their studies (James & Miller, 1973; de Villiers & de Villiers, 1974; Waryas & Ruder, 1974).

Previous Research in Comprehension

Research in the area of assessment of language comprehension in children has predominantly been concerned with the assertion that language comprehension precedes language production (Fraser, Bellugi & Brown, 1963; Ingram, 1974; Shipley, Smith, & Gleitman, 1969), the development of comprehension of linguistic structure (Carrow, 1968), and the limitations of procedures which are used to assess language comprehension abilities in children (Rees & Shulman, 1978; Waryas & Ruder, 1974). It has also focused on subject variables which influence performance on language comprehension tests (Haynes & McCallion, 1981) and response inconsistencies on language comprehension tests (Millen & Prutting, 1979).

Statement of the Problem

There is little evidence in the literature on language comprehension which addresses differences in the child's

performance as a function of the strategy employed in the test. A number of strategies are currently available for assessing children's language comprehension. These strategies measure the same component, language comprehension. If they all measure language comprehension, the strategy selected for each child should be individualized as much as possible, according to the child's needs (Miller, 1981). One strategy may be better for the child as opposed to the other strategy that are available. The child may prefer one strategy over another strategy. The purpose of this study was to compare children's performance on tasks of language comprehension using three modes of presentation: (a) Picture-identification tasks, (b) Object-manipulation tasks, and (c) Best-fit tasks.

Hypothesis and Subhypotheses

The following hypothesis and subhypotheses stated in the null form, were tested at the .05 level of significance.

Hypothesis

There are no significant differences between four-year-old and six-year-old children's performance on language comprehension tasks as a function of the strategy.

Subhypotheses

Subhypothesis 1

There is not a significant difference between four-year-old children's performance on picture-identification and

object-manipulation tasks of language comprehension for prepositions.

Subhypothesis 2

There is not a significant difference between four-year-old children's performance on picture-identification and best-fit tasks of language comprehension for prepositions.

Subhypothesis 3

There is not a significant difference between four-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for prepositions.

Subhypothesis 4

There is not a significant difference between four-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for the uncontracted copula.

Subhypothesis 5

There is not a significant difference between four-year-old children's performance on picture-identification and best-fit tasks of language comprehension for the uncontracted copula.

Subhypothesis 6

There is not a significant difference between four-year-old children's performance on object-manipulation and

best-fit tasks of language comprehension for the uncontracted copula.

Subhypothesis 7

There is not a significant difference between four-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for the third person regular verb.

Subhypothesis 8

There is not a significant difference between four-year-old children's performance on picture-identification and best-fit tasks of language comprehension for the third person regular verb.

Subhypothesis 9

There is not a significant difference between four-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for the third person regular verb.

Subhypothesis 10

There is not a significant difference between four-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for the contracted auxiliary.

Subhypothesis 11

There is not a significant difference between four-year-old children's performance on picture-identification and best-fit tasks of language comprehension for the contracted auxiliary.

Subhypothesis 12

There is not a significant difference between four-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for the contracted auxiliary.

Subhypothesis 13

There is not a significant difference between six-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for prepositions.

Subhypothesis 14

There is not a significant difference between six-year-old children's performance on picture-identification and best-fit tasks of language comprehension for prepositions.

Subhypothesis 15

There is not a significant difference between six-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for prepositions.

Subhypothesis 16

There is not a significant difference between six-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for the uncontracted copula.

Subhypothesis 17

There is not a significant difference between six-year-old children's performance on picture-identification and best-fit tasks of language comprehension for the uncontracted copula.

Subhypothesis 18

There is not a significant difference between six-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for the uncontracted copula.

Subhypothesis 19

There is not a significant difference between six-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for the third person regular verb.

Subhypothesis 20

There is not a significant difference between six-year-old children's performance on picture-identification and best-fit tasks of language comprehension for the third person regular verb.

Subhypothesis 21

There is not a significant difference between six-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for the third person regular verb.

Subhypothesis 22

There is not a significant difference between six-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for the contracted auxiliary.

Subhypothesis 23

There is not a significant difference between six-year-old children's performance on picture-identification and best-fit tasks of language comprehension for the contracted auxiliary.

Subhypothesis 24

There is not a significant difference between six-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for the contracted auxiliary.

Subhypothesis 25

There is not a significant difference between four-year-old and six-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for prepositions.

Subhypothesis 26

There is not a significant difference between four-year-old and six-year-old children's performance on picture-identification and best-fit tasks of language comprehension for prepositions.

Subhypothesis 27

There is not a significant difference between four-year-old and six-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for prepositions.

Subhypothesis 28

There is not a significant difference between four-year-old and six-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for the uncontracted copula.

Subhypothesis 29

There is not a significant difference between four-year-old and six-year-old children's performance on picture-identification and best-fit tasks of language comprehension for the uncontracted copula.

Subhypothesis 30

There is not a significant difference between four-year-old and six-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for the uncontracted copula.

Subhypothesis 31

There is not a significant difference between four-year-old and six-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for the third person regular verb.

Subhypothesis 32

There is not a significant difference between four-year-old and six-year-old children's performance on picture-identification and best-fit tasks of language comprehension for the third person regular verb.

Subhypothesis 33

There is not a significant difference between four-year-old and six-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for the third person regular verb.

Subhypothesis 34

There is not a significant difference between four-year-old and six-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for the contracted auxiliary.

Subhypothesis 35

There is not a significant difference between four-year-old and six-year-old children's performance on picture-identification and best-fit tasks of language comprehension for the contracted auxiliary.

Subhypothesis 36

There is not a significant difference between four-year-old and six-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for the contracted auxiliary.

Limitations

1. Generalizations from this study should be made cautiously since the population tested was limited to one geographic location.
2. The materials and stimulus items used in this study were not standardized.
3. The object-manipulation task can not be employed with all grammatical structures.

Definitions

1. Comprehension - The ability of an individual to understand and give appropriate meaning to what is heard.
2. Syntax - The order or arrangement of words in an utterance .
3. Morphology - The branch of linguistics concerned with the smallest identifiable linguistic unit that is grammatically pertinent (Byrne & Shervanian, 1978).
4. Telegraphic - A shortened form of speech used by children; it contains the most important or key words (Byrne & Shervanian, 1978).

5. Holophrastic - A stage of language development characterized by the use of a single word to convey a complete thought or sentence.

CHAPTER II

REVIEW OF RELATED LITERATURE

Comprehension Versus Production

Researchers in child language have traditionally reported that children comprehend language earlier than they produce it (Myklebust, 1954). The classic study that supports this position is that of Fraser, Bellugi, and Brown (1963). In this study, the relative difficulty of imitation, comprehension, and production was investigated. Fraser, Bellugi, and Brown (1963) selected 10 grammatical contrasts, such as singular/plural, and affirmative/negative, and presented them in the form of picture stimuli to 12 three-year-old children. The results indicated that the comprehension of the items occurred before the production. The results also showed that some grammatical contrasts were more difficult than others.

Shiple, Smith, and Gleitman (1969) found that children comprehend sentence structures before they produce them. They studied two groups of children. One group, the "telegraphic" group, was using utterances ranging in length from 1.4 to 1.85 words. The other group, the "holophrastic" group, was using only one-word utterances. In this experiment, mothers presented their children with three types of commands: (a) full-length commands ("Throw me the ball"),

(b) telegraphic commands ("Throw ball"), and (c) holophrastic commands ("Ball"). A response to a command was defined as any physical contact with the object of the command, looking at the object, verbally replying to the command, or imitating the command. The "telegraphic" group responded more frequently to the full-length commands than to the telegraphic and holophrastic commands. The "holophrastic" group responded more frequently to the telegraphic and holophrastic commands.

Bloom (1974), however, criticized the Shipley, Smith, and Gleitman (1969) study because the results did not show that the children comprehended the commands. She felt the children's responses did not reflect comprehension, and she questioned the view of comprehension occurring before production. Bloom (1974) suggested that the "developmental gap between comprehension and speaking probably varies among different children at different times and may be more apparent than real" (p. 286).

Keeney and Smith (cited in Ingram, 1974) also questioned if comprehension occurred before production. They reported that four-year-old children did not understand the verb inflection markers corresponding to subject-verb agreements in nonsense pairs such as "The snup jumps" or "The snups jump". They interpreted the results to mean that production occurs before comprehension.

Development of Comprehension

Little research has been done on the development of comprehension of linguistic structure in children (Carrow, 1968). Few attempts have been made to identify children's patterns of acquisition of comprehension during the developmental period (Huttenlocher, 1974). One major problem in studying the order of emergence of grammar in comprehension is that it is unclear whether the investigators are measuring the child's linguistic competence or performance (Carrow-Woolfolk & Lynch, 1982). Carrow (1968) conducted a study to assess the auditory comprehension of language structure by children and to gather information regarding the order in which children learn to comprehend the lexical and grammatical aspects of language. Table 1, Developmental Order of Lexical and Grammatical Language Comprehension, shows the results of her study.

Limitations of Comprehension Procedures

The relationship between language production and comprehension is unclear (Waryas & Ruder, 1974). Production has been studied more since it implies observable behavior (Waryas & Ruder, 1974), and because language comprehension is a private act (Byrne & Shervanian, 1978; Carrow, 1968; Waryas & Ruder, 1974). There are aspects of receptive language which cannot be studied through the traditional comprehension testing procedure (Waryas & Ruder, 1974). Recent interest in language comprehension has focused on the

TABLE 1
DEVELOPMENTAL ORDER OF LEXICAL AND
GRAMMATICAL LANGUAGE COMPREHENSION

Sentence Modalities	Age
Affirmative and negative	3-0 to 3-6
Subject and object in active voice (word-order cues)	3-0
Present progressive and future tense	3-0 to 4-6
Number, gender in third person, pronouns, nominative case	3-0 to 5-6
Masculine and feminine singular and neuter plural of third person, possessive pronoun	4-0
Singular and plural marked by "is" or "are"	4-0
Noun, singular and plural marked by inflection -s	4-0 to 5-0
Noun and noun + derivational, suffix -er	4-6
Subject and object in possessive voice (word-order cues)	5-6 to 6-0
Indirect and direct object	4-6

(Carrow, 1968)

limitations of procedures used to assess language comprehension (Rees & Shulman, 1978; Waryas & Ruder, 1974).

Current grammatical models emphasize the well-formedness or grammaticality of an ideal speaker-listener relationship (Waryas & Ruder, 1974). Our intuitions, however, have some awareness of degree of deviation from this grammaticality, what could be called "levels of semi-grammaticality" (Waryas & Ruder, 1974). These intuitions are a part of the underlying knowledge of the language of a native speaker. The grammar of a language is a hierarchical system of rules that enables one to judge the degree of deviance of semigrammaticality (Waryas & Ruder, 1974). Traditional comprehension procedures do not allow us to analyze children's responses to semigrammaticality (Waryas & Ruder, 1974). They believe that the limits of comprehension procedures become apparent when we consider how we might use them to assess a child's comprehension of certain grammatical rules, such as those governing subject-verb agreement.

Waryas and Ruder (1974) proposed an alternative to the traditional comprehension format that could be termed a "grammatical preference procedure." In this procedure, the child is presented with a single visual test plate and two pre-recorded stimuli from which the better match to the picture is selected. The traditional comprehension approach requires the child to select one of a group of visual stimuli to match an auditory stimulus. This preference procedure

allows us more closely to determine which structures a child does or does not comprehend by making possible a wide range of fine grammatical contrasts (Waryas & Ruder, 1974).

Current clinical approaches to the assessment of language comprehension in children measure "receptive" knowledge of lexical items and syntactic structures (Rees & Shulman, 1978). Such tests as the Test for Auditory Comprehension of Language (Carrow, 1973) and the Northwestern Syntax Screening Test (Lee, 1969) have similar test stimuli which test the child's comprehension. The test stimuli are simple declarative sentences that are not related to each other and rarely occur in ordinary conversations. According to Rees and Shulman (1978), a more inclusive orientation to the subject of the comprehension of spoken language would take into consideration a broad range of operations that the listener performs to obtain information from the heard utterance. The listener's operations may be grouped under three headings: (a) literal meaning - the one most closely associated with usual clinical tests of comprehension, whether the response mode is pointing to pictures or objects, carrying out instructions, or repeating sentences; (b) presupposition and inference - a key notion in this expanded view of sentence comprehension being that the listeners are always distinguishing between old and new information so that they may relate the new information to the old (Haviland & Clark, 1974); and (c) illocutionary

acts - this aspect determines how the speaker intends the sentence to be taken.

Subject Variables in Comprehension Testing

There are subject variables which have not been investigated in comprehension testing (Haynes & McCallion, 1981). One subject variable that may affect comprehension testing is that of cognitive tempo (reflectivity/impulsivity) (Haynes & McCallion, 1981). Kagan (1965) defined cognitive tempo as a variable that "describes a child's consistent tendency to display slow or fast response times in problem situations with high response uncertainty" (p. 134). Haynes and McCallion (1981) conducted a pilot study to determine if there were significant differences between reflective, impulsive, and control subjects on the Test for Auditory Comprehension of Language (Carrow, 1973) using three modes of test administration. The test administration modes consisted of a standard test administration, an imitative administration, and a two-auditory stimulus administration. The results indicated that reflective children scored significantly higher than the impulsive or control groups. These results also suggest that a child's style of processing information may enhance performance on test instruments such as the Test for Auditory Comprehension of Language (Carrow, 1973). Cognitive tempo may be a variable that affects a child's performance on comprehension tests.

Test Performance Inconsistencies

The Northwestern Syntax Screening Test (Lee, 1969) and the Test for Auditory Comprehension of Language (Carrow, 1973) are widely used by speech-language pathologists to test language comprehension in children (Millen & Prutting, 1979). Many speech-language pathologists feel that these tests measure similar comprehension skills and that performance on one test can predict performance on another (Millen & Prutting, 1979). Millen and Prutting (1979) compared children's performance on the Test for Auditory Comprehension of Language (Carrow, 1973), the receptive part of the Northwestern Syntax Screening Test (Lee, 1969), and the Bellugi-Klima Comprehension Test (Bellugi-Klima, 1971). The subject's overall scores on the three tests were comparable but there were significant differences for over half the grammatical structures tested. These tests should not be used to determine target forms for remediation. A number of variables other than language comprehension may influence a child's ability to correctly identify a grammatical structure on one test but not on another. Factors such as linguistic context, pictorial ambiguity, and memory may influence test performance.

Summary

A comprehensive method of measuring comprehension is not yet available to speech-language pathologists in the form of clinical tests (Rees & Shulman, 1978). Some tests

of language comprehension deal mainly with matters other than comprehension, as in the case of measurements that test specific auditory abilities such as speech-sound discrimination and auditory-memory span (Rees & Shulman, 1978). Other tests give little information about the subject's ability to understand the spoken language at the conversation as well as at the literal level (Rees & Shulman, 1978). It is evident that more comprehensive tests are needed that will give an overall view of the language comprehension abilities of children.

CHAPTER III

PROCEDURE

Subjects

The subjects for this study were 20 four-year-old and 20 six-year-old children, randomly selected from several day care centers and a public elementary school in Watauga County, North Carolina. They were not receiving direct speech or language therapy at the time of this study. All of the subjects had normal hearing as indicated by audiometric screenings at 25 decibels for the frequencies 500, 1000, 2000, 4000 and 6000 Hertz. Standard American English was reported to be the only language spoken in the home.

Method

A single examiner administered language comprehension tasks to each subject using three modes of presentation: (a) Picture-identification tasks, (b) Object-manipulation tasks and (c) Best-fit tasks. Four grammatical structures were tested through each mode of presentation: (a) prepositions (in, on), (b) uncontractible copula (is, are), (c) third person regular verb markers (runs, walks, sits, eats), and (d) contractible auxiliary ('s, 'm, 're). These four structures were chosen since they represent a range of the sequence of morphological development according to Brown

(1973). They were also chosen because they were the only structures that could be easily depicted. Table 2, Sequence of Morpheme Development, shows Brown's (1973) order of grammatical structure development. There were five test items for each grammatical structure that was tested. Vocabulary level for both age groups was controlled. The stimulus sentences were no longer than five words in length. There was a total of 60 test items. Different sets of test items were used for the two age groups. See Appendix A for lists of test items for both the four-year-old and six-year-old subjects. The testing was conducted live at the school and day care centers in a quiet, well-illuminated room.

The standard instructions for the three strategies were:

Picture-identification: I am going to show you three pictures. Then I am going to say a sentence. I want you to pick out the picture that matches what I say. Let's try some. Listen real good to what I say.

Object-manipulation: I am going to say a sentence. I want you to look in this box right here and make the toys in the box do what I say. Sometimes, there will not be toys in there that can do what I say. You will have to look around the room to find what you need to do what I say. Let's try some. Listen real good to what I say.

Best-fit: I am going to show you a picture. Then I am going to say two sentences. I want you to put your finger on the red circle if the first sentence I say is right. I want you to put your finger on the blue square if the second sentence I say is right. Let's try some. Listen real good to what I say.

TABLE 2
SEQUENCE OF MORPHEME DEVELOPMENT

1.	Present progressive	-ing
2. & 3.	Prepositions	in, on
4.	Plurals - regular	/-s/, /z/, /-əz/
5.	Past tense - irregular	came, ran, ate
6.	Possessive	's
7.	Uncontracted copula	is, are, am
8.	Articles	a, the
9.	Past tense - regular	/-d/, /-əd/, /-t/
10.	Third person regular verb markers	/-2/, /-z/
11.	Third person irregular	does, has
12.	Uncontracted auxiliary verbs	is, are, am
13.	Contracted copula	's, 'm, 're
14.	Contracted auxiliary verbs	's, 'm, 're

(Brown, 1973)

The examiner asked the child if the instructions were understood. If they were not, the examiner repeated them. If they were understood, testing began.

After the instructions were given, two practice items were administered prior to the administration of each strategy. Strategy, grammatical structure, and test item order, however, were varied. For example, one subject may have received the strategies in the order of object-manipulation, best-fit, and picture-identification, the grammatical structures in the order of third person regular verbs, contracted auxiliary, prepositions, and uncontracted copula, and the test items in the order of 2, 3, 1, 5, and 4. Another subject may have received the strategies in the order of best-fit, picture-identification, and object-manipulation, the grammatical structures in the order of contracted auxiliary, third person regular verbs, uncontracted copula, and prepositions, and the test items in the order of 5, 1, 3, 2, and 4. All three strategies were administered to the child with a one to two minute break between strategy applications. The child had 10 seconds to respond to each item. The examiner repeated the sentences for the stimulus items one time upon request by the child. Total number of correct responses for each strategy was recorded. Reinforcement in the form of social praise and shoulder patting was administered intermittently during testing. Each child received a sticker for completing the tasks.

CHAPTER IV

RESULTS

The results of children's performance on tasks of language comprehension indicated that generally the children preferred the picture-identification strategy of material presentation. For example, on the picture-identification task for prepositions, the four-year-old group obtained a higher mean score (4.6) than they did on the object-manipulation task for prepositions (3.9). The six-year-old group also obtained a higher mean score for prepositions on the picture-identification (4.9) than they did on the object-manipulation task (4.7). Differences in performance occurred in the four-year-old group and between the four-year-old group and six-year-old group across all strategies and for all grammatical structures tested. Differences in performance also occurred in the six-year-old group across all strategies and for all grammatical structures tested except for prepositions and third person regular verbs. The six-year-old children performed better than the four-year-old children.

Analysis of Data

The results of the subjects' performance appear in Table 3, Subjects' Performance on Language Comprehension Strategies. The mean ranks and chi-square scores as determined by the Friedman Two-Way ANOVA (Siegel, 1956) are shown in Table 4, Friedman Two-Way ANOVA and Mean Ranks.

The Friedman Two-Way ANOVA (Siegel, 1956) was applied to all of the subhypotheses to determine if differences in performance occurred. The data analysis revealed that significant differences occurred in subhypotheses one through 12:

Subhypothesis 1

There is not a significant difference between four-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for prepositions.

Subhypothesis 2

There is not a significant difference between four-year-old children's performance on picture-identification and best-fit tasks of language comprehension for prepositions.

Subhypothesis 3

There is not a significant difference between four-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for prepositions.

TABLE 3

SUBJECTS' PERFORMANCE ON LANGUAGE COMPREHENSION STRATEGIES

Item	*Strategy	**Structure	4-Year-Olds		6-Year-Olds	
			Mean	SD	Mean	SD
1	PI	P	4.6	.68	4.9	.31
2	OM	P	3.9	.79	4.7	.57
3	BF	P	2.4	1.35	4.0	1.21
4	PI	UC	4.3	.98	4.75	.72
5	OM	UC	2.05	1.28	3.4	1.14
6	BF	UC	2.6	1.27	4.2	8.3
7	PI	TPR	4.75	.44	5.0	0.00
8	OM	TPR	4.35	.74	4.5	.69
9	BF	TPR	2.5	1.36	3.8	1.58
10	PI	CA	4.75	.55	4.85	.36
11	OM	CA	4.1	1.12	4.35	.88
12	BF	CA	2.55	1.23	2.85	1.35

*Key to Strategies: PI - Picture-Identification; OM - Object-Manipulation; BF - Best-Fit

**Key to Structures: P - Prepositions; UC - Uncontracted Copula; TPR - Third Person Regular; CA - Contracted Auxiliary

TABLE 4
 FRIEDMAN TWO-WAY ANOVA AND MEAN RANKS

Group	N	**P Mean Ranks	**OM Mean Ranks	**BF Mean Ranks	Chi- Square	P
P	4	2.63	2.05	1.32	16.975	0.000
	6	2.27	2.07	1.65	4.075	*0.130
Total	40	2.45	4.06	1.49	18.762	0.000
UC	4	2.75	1.42	1.82	18.475	0.000
	6	2.57	1.45	1.97	12.675	0.002
Total	40	2.66	1.44	1.90	30.612	0.000
TPR	4	2.60	2.22	1.17	21.825	0.000
	6	2.42	1.90	1.67	5.925	*0.052
Total	40	2.51	2.06	1.42	23.887	0.000
CA	4	2.63	2.13	1.25	19.375	0.000
	6	2.65	2.20	1.15	23.700	0.000
Total	40	2.64	2.16	1.20	42.912	0.000

*Not significant at <.05
 **PI - Picture-Identification; OM - Object-Manipulation; BF - Best-Fit
 ***Key to Structures: P - Prepositions; UC - Uncontracted Copula; TPR - Third Person Regular; CA - Contracted Auxiliary

Subhypothesis 4

There is not a significant difference between four-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for the uncontracted copula.

Subhypothesis 5

There is not a significant difference between four-year-old children's performance on picture-identification and best-fit tasks of language comprehension for the uncontracted copula.

Subhypothesis 6

There is not a significant difference between four-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for the uncontracted copula.

Subhypothesis 7

There is not a significant difference between four-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for the third person regular verb.

Subhypothesis 8

There is not a significant difference between four-year-old children's performance on picture-identification and best-fit tasks of language comprehension for the third person regular verb.

Subhypothesis 9

There is not a significant difference between four-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for the third person regular verb.

Subhypothesis 10

There is not a significant difference between four-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for the contracted auxiliary.

Subhypothesis 11

There is not a significant difference between four-year-old children's performance on picture-identification and best-fit tasks of language comprehension for the contracted auxiliary.

Subhypothesis 12

There is not a significant difference between four-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for the contracted auxiliary.

Based on the results of the Friedman Two-Way ANOVA (Siegel, 1956), subhypotheses one through 12 were rejected.

The data analysis revealed that no significant differences occurred in subhypotheses 13, 14, and 15:

Subhypothesis 13

There is not a significant difference between six-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for prepositions.

Subhypothesis 14

There is not a significant difference between six-year-old children's performance on picture-identification and best-fit tasks of language comprehension for prepositions.

Subhypothesis 15

There is not a significant difference between six-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for prepositions.

Subhypotheses 13, 14, and 15 were not rejected.

The data analysis revealed that significant differences occurred in subhypotheses 16, 17, and 18:

Subhypothesis 16

There is not a significant difference between six-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for the uncontracted copula.

Subhypothesis 17

There is not a significant difference between six-year-old children's performance on picture-identification and

best-fit tasks of language comprehension for the uncontracted copula.

Subhypothesis 18

There is not a significant difference between six-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for the uncontracted copula.

Subhypotheses 16, 17, and 18 were rejected.

The data analysis indicated that no significant differences occurred in subhypotheses 19, 20, and 20:

Subhypothesis 19

There is not a significant difference between six-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for the third person regular verb.

Subhypothesis 20

There is not a significant difference between six-year-old children's performance on picture-identification and best-fit tasks of language comprehension for the third person regular verb.

Subhypothesis 21

There is not a significant difference between six-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for the third person regular verb.

Subhypotheses 19, 20, and 21 were not rejected.

The data analysis indicated that significant differences occurred in subhypotheses 22, 23, and 24.

Subhypothesis 22

There is not a significant difference between six-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for the contracted auxiliary.

Subhypothesis 23

There is not a significant difference between six-year-old children's performance on picture-identification and best-fit tasks of language comprehension for the contracted auxiliary.

Subhypothesis 24

There is not a significant difference between six-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for the contracted auxiliary.

Subhypotheses 22, 23, and 24 were rejected.

The data analysis revealed that significant differences occurred in subhypotheses 25 through 36:

Subhypothesis 25

There is not a significant difference between four-year-old and six-year-old children's performance on picture-

identification and object-manipulation tasks of language comprehension for prepositions.

Subhypothesis 26

There is not a significant difference between four-year-old and six-year-old children's performance on picture-identification and best-fit tasks of language comprehension for prepositions.

Subhypothesis 27

There is not a significant difference between four-year-old and six-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for prepositions.

Subhypothesis 28

There is not a significant difference between four-year-old and six-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for the uncontracted copula.

Subhypothesis 29

There is not a significant difference between four-year-old and six-year-old children's performance on picture-identification and best-fit tasks of language comprehension for the uncontracted copula.

Subhypothesis 30

There is not a significant difference between four-year-old and six-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for the uncontracted copula.

Subhypothesis 31

There is not a significant difference between four-year-old and six-year-old children's performance on picture-identification and object-manipulation tasks of language comprehension for the third person regular verb.

Subhypothesis 32

There is not a significant difference between four-year-old and six-year-old children's performance on picture-identification and best-fit tasks of language comprehension for the third person regular verb.

Subhypothesis 33

There is not a significant difference between four-year-old and six-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for the third person regular verb.

Subhypothesis 34

There is not a significant difference between four-year-old and six-year-old children's performance on picture-

identification and object-manipulation tasks of language comprehension for the contracted auxiliary.

Subhypothesis 35

There is not a significant difference between four-year-old and six-year-old children's performance on picture-identification and best-fit tasks of language comprehension for the contracted auxiliary.

Subhypothesis 36

There is not a significant difference between four-year-old and six-year-old children's performance on object-manipulation and best-fit tasks of language comprehension for the contracted auxiliary.

Subhypotheses 25 through 36 were rejected.

Generally, all of the subjects performed better on tasks which employed the picture-identification strategy of presentation, followed by the object-manipulation and best-fit strategies, respectively. For example, the four-year-old group obtained the highest mean score for the third person regular verb on the picture-identification task (4.75). The next highest mean score for the third person regular verb was obtained on the object-manipulation task (4.35), followed by the best-fit task (2.5). When the uncontracted copula was tested, however, both groups preferred the picture-identification strategy, followed by the best-fit and object-manipulation strategies. The six-year-old

children, overall, performed better than the four-year-old children.

Based on the chi-square scores and the mean ranks obtained by the Friedman Two-Way ANOVA (Siegel, 1956), the major hypothesis of this study, there are no significant differences between four-year-old and six-year-old children's performance on language comprehension tasks as a function of the strategy, was also rejected. The results of this study indicated that individual differences in performance were prevalent.

CHAPTER V

SUMMARY, DISCUSSION, RECOMMENDATIONS

Summary

The purpose of this study was to compare children's performance on tasks of language comprehension using three modes of presentation: (a) picture-identification tasks, (b) object-manipulation tasks, and (c) best-fit tasks. Twenty four-year-old and twenty six-year-old children were involved in this study. Each subject was tested for four grammatical structures, prepositions, uncontracted copulas, third person regular verbs, and contracted auxiliaries, using the previously mentioned presentation methods. The data were analyzed by means of the Friedman Two-Way ANOVA (Siegel, 1956). Means and standard deviations were also computed.

Discussion

Since significant differences in the children's performance occurred in most instances across all strategies, it was evident that they did not perform similarly on the strategies. Speech-language pathologists should not assume that performance on one strategy will dictate performance on another strategy, and these strategies should not be used

interchangeably. The child's individual needs should be taken into consideration prior to selecting the strategy that is to be used in language comprehension testing. Miller (1978) ordered these three strategies in terms of their developmental appropriateness: (a) picture-identification; (b) object-manipulation; and (c) best-fit. It is interesting to note that the children's order of strategy preference corresponded closely to Miller's (1978) order of developmental appropriateness. The strategies should be used one at a time, according to the developmental age of the child being tested.

A post-hoc analysis revealed that the construction of some of the items may have influenced the results. It was especially evident in the picture-identification task. For example, one of the test items for the preposition "in" for the six-year-old subjects was "Show me 'The spoon is in the box.'" A picture representing this sentence was shown with a picture of a spoon and a picture of a spoon in a cup. This item did not actually test the child's ability to understand the concept "in." Rather, it tested whether or not the child knew the difference between a box and a cup. Perhaps the items could be better constructed if this study is replicated in the future. In the above example, for instance, the test item could be shown with a picture of a spoon on a box and a picture of a spoon beside a box. This revision would result in a more acceptable approach to testing the child's ability to understand the preposition "in."

In conclusion, the results of the data analysis indicated that the children in this study did not perform similarly across the language comprehension strategies that were used. The strategy that is selected for a certain child should be made carefully. The speech-language pathologist should be certain that the strategy chosen approximates the individual needs of the child being tested.

Recommendations for Further Research

An important consideration for further research would be to compare language disordered children's performance on language comprehension tests using the same strategies that were used in this study. It would also be interesting to determine if these methods or strategies of presentation would be useful for basic language instruction in the regular classroom. Studies involving larger populations from different geographic locations would help determine how various students perform on these strategies. Some of the children were tested late in the afternoon. It might be interesting to see if a child's rate of performance is higher during the morning hours than during the afternoon hours.

REFERENCES

References

- Bellugi-Klima, U. Some language comprehension tests. In C. Lavatelli (ED.), Language Training in Early Childhood. Champaign-Urbana, Ill.: University of Illinois Press, 1971.
- Bloom, L. Talking, understanding, and thinking. In R. L. Schiefelbusch & L. L. Lloyd (Eds.), Language Perspectives -- Acquisition, Retardation, and Intervention. Baltimore: University Park Press, 1974.
- Brown, R. A First Language: The Early Stages. Cambridge, Mass.: Harvard University Press, 1973.
- Byrne, M. C. & Shervanian, C. C. Introduction to Communicative Disorders. New York: Harper & Row, 1977.
- Carrow, E. Test for Auditory Comprehension of Language. Austin, Texas: Learning Concepts, 1973.
- Carrow-Woolfolk, E. & Lynch, J. I. An Integrative Approach to Language Disorders in Children. New York: Grune & Stratton, 1982.
- Carrow, M. A. The development of auditory comprehension of language structure. Journal of Speech and Hearing Disorders, 1968, 33, 99-111.
- Darley, F. L. Appraisal of acquired language disorders. In F. L. Darley & D. C. Spriestersbach (Eds.), Diagnostic Methods in Speech Pathology. New York: Harper & Row, 1978.
- de Villiers, J. & de Villiers, P. Competence and performance in child language: Are children really competent to judge? Journal of Child Language, 1974, 1, 11-22.
- DiSimoni, F. The Token Test for Children. Boston: Teaching Resources Corporation, 1978.
- Dunn, L. M. Peabody Picture Vocabulary Test. Circle Pines, Minn.: American Guidance Service, 1965.
- Fraser, C., Bellugi, U., & Brown, R. Control of grammar in imitation, comprehension, and production. Journal of Verbal Learning and Verbal Behavior, 1963, 2, 121-135.

- Haviland, S. E. & Clark, H. H. What's new? Acquiring new information as a process in comprehension. Journal of Verbal Learning and Verbal Behavior, 1974, 13, 512-521.
- Haynes, W. O. & McCallion, M. A. Language comprehension testing: The influence of three modes of test administration and cognitive tempo on the performance of preschool children. Language, Speech, and Hearing Services in Schools, 1981, 12, 74-81.
- Huttenlocher, J. The origins of language comprehension, In R. L. Solso (Ed.), Theories of Cognitive Psychology. Hillsdale, N.J.: Lawrence Erlbaum Associates, 1974.
- Ingram, D. The relationship between comprehension and production. In R. L. Schiefelbusch & L. L. Lloyd (Eds.), Language Perspectives -- Acquisition, Retardation, and Intervention. Baltimore: University Park, 1974.
- James, S. & Miller, J. F. Children's awareness of semantic constraints in sentences. Child Development, 1973, 44, 69-76.
- Kagan, J. Impulsive and reflective children: Significance of conceptual tempo. In J. D. Krumboltz (Ed.), Learning and the Education Process. Chicago: Rand-McNally, 1965.
- Lee, L. Northwestern Syntax Screening Test. Evanston, Ill.: Northwestern University Press, 1969.
- Millen, C. E. & Prutting, C. A. Inconsistencies across three language comprehension tests for specific grammatical features. Language, Speech, and Hearing Services in Schools, 1979, 10, 162-170.
- Miller, J. F. Assessing children's language behavior. In R. L. Schiefelbusch (Ed.), Bases of Language Intervention (Vol. 1). Baltimore: University Park Press, 1978.
- Miller, J. F. Assessing Language Production in Children. Baltimore: University Park Press, 1981.
- Myklebust, H. R. Auditory Disorders in Children. New York: Grune & Stratton, 1954.
- Newcomer, P. L. & Hammill, D. D. Test of Language Development. Austin, Texas: Empiric Press, 1977.
- Ress, N. S. & Shulman, J. I don't understand what you mean by comprehension. Journal of Speech and Hearing Disorders, 1978, 43, 208-219.

- Rosenberger, P. B. Neurological processes. In R. L. Schiefelbusch (Ed.), Bases of Language Intervention (Vol. 1). Baltimore: University Park Press, 1978.
- Shipley, E., Smith, C., & Gleitman, L. A study in the acquisition of language: Free responses to commands. Language, 1969, 45, 322-342.
- Siegel, S. Nonparametric Statistics for the Behavioral Sciences. New York: McGraw-Hill Book Company, 1956.
- Waryas, C. & Ruder, K. On the limitations of language comprehension procedures and an alternative. Journal of Speech and Hearing Disorders, 1974, 39, 44-52.

APPENDIX A
LIST OF TEST ITEMS

LIST OF TEST ITEMS
FOR FOUR-YEAR-OLD SUBJECTS

I. PICTURE-IDENTIFICATION TASK*

A. Prepositions

1. Practice item: The soap is on the table.
(Shown with picture of soap and picture of soap on towel)
2. Practice item: The cereal is in the bowl.
(Shown with picture of cereal and picture of cereal in box)
3. Test items:
 - a. The chewing gum is on the table.
(Shown with picture of gum and picture of gum on book)
 - b. The dog is on the table.
(Shown with picture of dog and picture of dog on floor)
 - c. The flowers are in the glass.
(Shown with picture of flowers and picture of flowers in grass)
 - d. The apples are on the table.
(Shown with picture of apples and picture of apples on book)
 - e. The shoes are in the box.
(Shown with picture of shoes and picture of shoes in cup)

B. Uncontracted copula

1. Practice item: The lady is happy.
(Shown with picture of sad lady and picture of happy man)
2. Practice item: The cookies are broken.
(Shown with picture of whole cookies and picture of broken crackers)
3. Test items:
 - a. The play-doh balls are big.
(Shown with picture of small play-doh balls and picture of can of play-doh)
 - b. The door is open.
(Shown with picture of closed door and picture of open window)
 - c. The glass is full.
(Shown with picture of empty glass and picture of half empty glass)

*The practice items and test items were preceded by the carrier phrase, "Show me."

- d. The spoons are dirty.
(Shown with picture of clean spoons and picture of dirty spoon)
- e. The toothbrush is wet.
(Shown with picture of toothbrush and pictures of wet hairbrush)

C. Third person regular verb markers

1. Practice item: The baby sleeps.
(Shown with picture of man sleeping and picture of baby eating)
2. Practice item: The man runs.
(Shown with picture of man walking and picture of lady running)
3. Test items:
 - a. The lady eats.
(Shown with picture of boy eating and picture of lady drinking)
 - b. The lady sits.
(Shown with picture of man sitting and picture of lady standing)
 - c. The boy drinks.
(Shown with picture of girl drinking and picture of boy eating)
 - d. The man walks.
(Shown with picture of lady walking and picture of man sitting)
 - e. The rabbit hops.
(Shown with picture of rabbit eating and picture of frog hopping)

D. Contracted auxiliary verbs

1. Practice item: They're eating.
(Shown with picture of boy eating and picture of two people drinking)
2. Practice item: She's running.
(Shown with picture of man running and picture of lady walking)
3. Test items:
 - a. They're walking.
(Shown with picture of people sitting and picture of boy walking)
 - b. They're playing.
(Shown with picture of people sleeping and picture of girl playing)
 - c. She's jumping.
(Shown with picture of lady standing and picture of man jumping)
 - d. He's brushing.
(Shown with picture of boy combing and picture of girl brushing)

- e. The cookie's breaking.
(Shown with picture of whole cookie and picture of candy bar breaking)

II. OBJECT-MANIPULATION TASK*

- A. Prepositions
 - 1. Practice item: The soap is on the table.
 - 2. Practice item: The cereal is in the bowl.
 - 3. Test items:
 - a. The chewing gum is on the table.
 - b. The dog is on the table.
 - c. The flowers are in the glass.
 - d. The apples are on the table.
 - e. The shoes are in the box.
- B. Uncontracted copula
 - 1. Practice item: The lady is happy.
 - 2. Practice item: The cookies are broken.
 - 3. Test items:
 - a. The play-doh balls are big.
 - b. The door is open.
 - c. The glass is full.
 - d. The spoons are dirty.
 - e. The toothbrush is wet.
- C. Third person regular verb markers
 - 1. Practice item: The baby sleeps.
 - 2. Practice item: The man runs.
 - 3. Test items:
 - a. The lady eats.
 - b. The lady sits.
 - c. The boy drinks.
 - d. The man walks.
 - e. The rabbit hops.
- D. Contracted auxiliary verbs
 - 1. Practice item: They're eating.
 - 2. Practice item: She's running.
 - 3. Test items:
 - a. They're sitting.
 - b. They're playing.
 - c. She's jumping.
 - d. He's brushing.
 - e. The cookie's breaking.

*The practice items and test items were preceded by the carrier phrase, "Show me."

III. BEST-FIT TASK*

A. Prepositions

1. Practice item: The soap is on the table.**
The soap is in the table.
2. Practice item: The cereal is on the bowl.
The cereal is in the bowl.**
3. Test items:
 - a. The chewing gum is on the table.**
The chewing gum is in the table.
 - b. The dog is in the table.
The dog is on the table.**
 - c. The flowers are in the glass.**
The flowers are on the glass.
 - d. The apples are in the table.
The apples are on the table.**
 - e. The shoes are on the box.
The shoes are in the box.**

B. Uncontracted copula

1. Practice item: The lady are happy.
The lady is happy.**
2. Practice item: The cookies are broken.**
The cookies is broken.
3. Test items:
 - a. The play-doh balls is big.
The play-doh balls are big.**
 - b. The door is open.**
The door are open.
 - c. The glass is full.**
The glass are full.
 - d. The spoons is dirty.
The spoons are dirty.**
 - e. The toothbrush are wet.
The toothbrush is wet.**

C. Third person regular verb markers

1. Practice item: The baby sleep.
The baby sleeps.**
2. Practice item: The man runs.**
The man run.
3. Test items:
 - a. The lady eats.**
The lady eat.
 - b. The lady sit.
The lady sits.**

*Both sentences in the practice and test items were spoken by the examiner.

**Pictures of these sentences were presented as the examiner read the sentences.

- c. The boy drink.
The boy drinks.**
 - d. The man walks.**
The man walk.
 - e. The rabbit hops.**
The rabbit hop.
- D. Contracted auxiliary verbs
- 1. Practice item: They're eating.**
They eating.
 - 2. Practice item: She running.
She's running.**
 - 3. Test items:
 - a. They sitting.
They're sitting.**
 - b. They're playing.**
They playing.
 - c. She's jumping.**
She jumping.
 - d. He brushing.
He's brushing.**
 - e. The cookie breaking.
The cookie's breaking.**

LIST OF TEST ITEMS
FOR SIX-YEAR-OLD SUBJECTS

I. PICTURE-IDENTIFICATION TASK*

A. Prepositions

1. Practice item: The cups are on the table.
(Shown with picture of cups on a book)
2. Practice item: The car is in the box.
(Shown with a picture of car and picture of bike in a box)
3. Test items:
 - a. The balloons are on the table.
(Shown with picture of balloons and picture of balls on a table)
 - b. The spoon is in the box.
(Shown with picture of spoon and picture of spoon in a cup)
 - c. The sock is on the table.
(Shown with picture of sock and picture of shoe on a table)
 - d. The cookies are on the table.
(Shown with picture of cookies and picture of cookies on a plate)
 - e. The pencil is in the cup.
(Shown with picture of pencil and picture of pencil in a box)

B. Uncontracted copula

1. Practice item: The lady is happy.
(Shown with picture of sad lady and picture of happy man)
2. Practice item: The cookies are broken.
(Shown with picture of whole cookies and picture of broken crackers)
3. Test items:
 - a. The play-doh balls are big.
(Shown with picture of small play-doh balls and picture of can of play-doh)
 - b. The door is open.
(Shown with picture of closed door and picture of open window)
 - c. The glass is full.
(Shown with picture of empty glass and picture of half empty glass)

*The practice items and test items were preceded by the carrier phrase, "Show me."

- d. The spoons are dirty.
(Shown with picture of clean spoons and picture of dirty spoon)
 - e. The toothbrush is wet.
(Shown with picture of toothbrush and picture of wet hairbrush)
- C. Third person regular verb markers
- 1. Practice item: The girl's drinking.
(Shown with picture of girl eating and picture of boy drinking)
 - 2. Practice item: It's snowing.
(Shown with picture of rain falling and picture of sun shining)
 - 3. Test items:
 - a. The lady's running.
(Shown with picture of man running and picture of lady standing)
 - b. The lady's standing.
(Shown with picture of man standing and picture of lady sitting)
 - c. They're playing.
(Shown with picture of girl playing and picture of people sleeping)
 - d. The lady's sitting.
(Shown with picture of lady standing and picture of man sitting)
 - e. They're sleeping.
(Shown with picture of family eating and picture of boy sleeping)

II. OBJECT-MANIPULATION TASK*

- A. Prepositions
- 1. Practice item: The cups are on the table.
 - 2. Practice item: The car is in the box.
 - 3. Test items:
 - a. The balloons are on the table.
 - b. The spoon is in the box.
 - c. The sock is on the table.
 - d. The cookies are on the table.
 - e. The pencil is in the cup.
- B. Uncontracted copula
- 1. Practice item: The lady is happy.
 - 2. Practice item: The cookies are broken.

*The practice items and test items were preceded by the carrier phrase, "Show me."

3. Test items:
 - a. The play-doh balls are big.
 - b. The door is open.
 - c. The glass is full.
 - d. The spoons are dirty.
 - e. The toothbrush is wet.

- C. Third person regular verb markers
 1. Practice item: The girl draws.
 2. Practice item: The boy stacks.
 3. Test items:
 - a. The dog runs.
 - b. The apple falls.
 - c. The rabbit hops.
 - d. The lady pours.
 - e. The cat lays

- D. Contracted auxiliary verbs
 1. Practice item: The girl's drinking.
 2. Practice item: It's snowing.
 3. Test items:
 - a. The lady's running.
 - b. The lady's standing.
 - c. They're playing.
 - d. The lady's sitting.
 - e. They're sleeping.

III. BEST-FIT TASK*

- A. Prepositions
 1. Practice item: The cups are on the table.**
The cups are in the table.
 2. Practice item: The car is on the box.
The car is in the box.**
 3. Test items:
 - a. The balloons are in the table.
The balloons are on the table.**
 - b. The spoon is in the box.**
The spoon is on the box.
 - c. The sock is on the table.**
The sock is in the table.
 - d. The cookies are in the table.
The cookies are on the table.**
 - e. The pencil is in the cup.**
The pencil is on the cup.

*Both sentences in the practice and test items were spoken by the examiner.

**Pictures of these sentences were presented as the examiner read the sentences.

- B. Uncontracted copula
1. Practice item: The lady are happy.
The lady is happy.**
 2. Practice item: The cookies are broken.**
The cookies is broken.
 3. Test items:
 - a. The play-doh balls are big.**
The play-doh balls is big.
 - b. The door are open.
The door is open.**
 - c. The glass are full.
The glass is full.**
 - d. The spoons are dirty.**
The spoons is dirty.
 - e. The toothbrush are wet.
The toothbrush is wet.**
- C. Third person regular verb markers
1. Practice item: The girl draw.
The girl draws.**
 2. Practice item: The boy stacks.**
The boy stack.
 3. Test items:
 - a. The dog run.
The dog runs.**
 - b. The apple fall.
The apple falls.**
 - c. The rabbit hops.**
The rabbit hop.
 - d. The lady pours.**
The lady pour.
 - e. The cat lay.
The cat lays.**
- D. Contracted auxiliary verbs
1. Practice item: The girl's drinking.**
The girl drinking.
 2. Practice item: It snowing.
It's snowing.**
 3. Test items:
 - a. The lady's running.**
The lady running.
 - b. The lady standing.
The lady's standing.**
 - c. They playing
They're playing.**
 - d. The lady's sitting.**
The lady sitting.
 - e. They're sleeping.**
They sleeping.

VITA

Anna L. Haines was born in Noblesville, Indiana on August 18, 1960. She moved to Charlotte, North Carolina in August 1962. She graduated from Myers Park High School in Charlotte in June 1978. In the fall 1978, she entered Appalachian State University in Boone, North Carolina, and in May 1982, she received a Bachelor of Science degree in Speech Pathology and Audiology. After graduation, she was involved in graduate study in Speech Pathology at James Madison University in Harrisonburg, Virginia from September 1982 to May 1983. In fall 1983, she enrolled in the graduate program at Appalachian State University and began a program of study for the Master's degree. She received this degree in Speech Pathology in May 1984.

Miss Haines is currently interested in securing a position as a speech pathologist in a public school system. Her address is 3233 Fairfax Drive, Charlotte, North Carolina 28209. Her parents are Mr. and Mrs. Charles B. Haines of Charlotte.