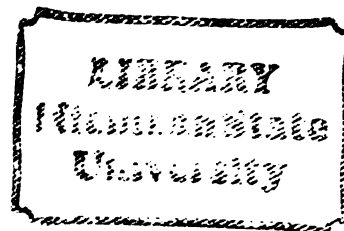




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ACQUISITION OF THE PLURAL INFLECTION
IN BLACK AMERICAN CHILDREN

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PH.D. degree in Audiology & Speech Sci.

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ACQUISITION OF THE PLURAL INFLECTION
IN BLACK AMERICAN CHILDREN

By

Mary Elizabeth Moore

A DISSERTATION

Submitted to
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ABSTRACT

ACQUISITION OF THE PLURAL INFLECTION IN BLACK AMERICAN CHILDREN

By

Mary Elizabeth Moore

The study attempted to determine the acquisition pattern of noun plural allomorphs in black American children in an effort to develop normative data to be used in the language assessment of black American children.

One hundred black American children enrolled in a predominantly black elementary school in the city of Detroit, Michigan were randomly selected as subjects. Twenty subjects, ten girls and ten boys, from grades preschool, kindergarten, first, third and fifth grades were matched by chronological age and sex. All subjects were normal in intelligence and hearing, resided in the same locale, lived in homes in which only English was spoken and both parents were black Americans. Articulation assessment measures were administered and the results recorded; however, no subject was penalized for articulation errors.

Test stimuli selected attempted to describe objectively the subjects receptive and expressive abilities. Nonsense words were used to eliminate the possibility of a subject being familiar with the word.

Presentation of the taped comprehension and production test stimuli was given on two separate days. In addition to taping all subjects' responses, the examiner and a recorder (an experienced speech pathologist) recorded all responses given by the subjects.

A Multivariate Analysis of Variance with the two independent variables of production and comprehension and three dependent variables of sex, order, and grade was performed upon the data. Appropriate post hoc procedures were employed to further detect differences between variables found to be statistically significant.

The Multivariate Analyses of Variance (MANOVA) substantiated the thesis that grade was an important factor in the subjects' performance on the pluralization of norms. The upper elementary subjects in grades three and five repeatedly scored higher than children in the lower elementary grades, i.e., preschool, kindergarten, and first grade. Sex and order of presentation of the six tasks were not found to be significant. Further analysis indicated that the subjects in grades three and five were able to add the appropriate allomorph to nonsense words more consistently than subjects in the lower grades. Subjects in all grades were able to attach the noun plural morpheme to real words with little difficulty. In the production tasks, no subject at any grade level responded with the appropriate allomorph 100% of the time. In the comprehension

Mary Elizabeth Moore

tasks, the period in which the subjects seemed more aware of the plural morpheme and its appropriate usage was first grade, with the third and fifth graders gradually increasing in accuracy thereafter. Even though preschool and kindergarten subjects did not score as high as first graders, they correctly identified the plural morpheme more than 50% of the time in the comprehension tasks.

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TABLE OF CONTENTS

	Page
LIST OF TABLES	
LIST OF FIGURES.	
Chapter	
I. INTRODUCTION	1
Linguistic Rules for the Noun Plural	
Inflection.	3
Developmental Stages in the Acquisition	
of the Noun Plural Morpheme	6
Comprehension and Production	15
Sociolinguistic Variables to Be Considered.	18
Sex	21
Interviewer	22
Summary and Statement of the Problem.	23
II. EXPERIMENTAL PROCEDURES.	25
Subjects	25
Test Environment	27
Test Stimuli.	28
Production Tasks.	28
Recognition Tasks	31
General Procedures.	33
Analysis of the Data	34
III. RESULTS	36
Production Tasks	37
Comprehension Tasks	39
Production Task A	44
Production Task B	46
Production Task C	46

	Page
Comprehension Task A	48
Comprehension Task B	51
Comprehension Task C	53
Summary	53
IV. DISCUSSION	56
Comprehension Rules for the Noun Plural Inflection.	57
Production Rules for the Noun Plural Inflection.	59
Comprehension and Production	66
Educational Implications and Suggestions for Further Research	69
APPENDICES	
APPENDIX	
A. PRODUCTION TASKS WITH RESPECTIVE TEST ITEMS .	74
B. RECOGNITION TASKS WITH RESPECTIVE TEST ITEMS	78
C. SUBJECT RESPONSE FORM	81
REFERENCES	83

LIST OF TABLES

Table		Page
1.	Summary of the Productive Allomorph of the Plural Noun Suffix	11
2.	Summary of the MANOVA for All Subjects' Performance on the Production Tasks	38
3.	Univariate F Values for Tasks by Grade . . .	38
4.	Means and Standard Deviations by Grade on Production and Comprehension Tasks. . . .	40
5.	Summary of the MANOVA for All Subjects' Performance on the Comprehension Tasks . . .	41
6.	Summary of X^2 Analysis for Production and Comprehension Tasks	42
7.	Significant Test Items in Production Task A .	44
8.	Summary of X^2 Values for Nonsense and Real Nouns in Production Task C	49
9.	Percentage of Subjects in Each Grade with Incorrect Responses to Significant Test Items (Comprehension Task A).	50
10.	Significant Test Items on Comprehension Task C	54

LIST OF FIGURES

Figure	Page
1. Average percentage of correct plural inflection responses on the production and comprehension tasks	43
2. Average percentage of plural inflection usage by grade on the production tasks.	45
3. Average percentage of correct plural inflection responses on real and nonsense words. .	47
4. Average percentage of plural inflection identification by grade on the comprehension tasks	52

CHAPTER I

INTRODUCTION

Research in the past decade has revealed considerable interest in the language of the lower socioeconomic black child. Two main theories have emerged concerning language (re)mediation for the urban black child. The deficit theorists encourage an early language remediation program in order to equip the lower socioeconomic child with the same linguistic skills which the middle class child brings to school (Williams, 1970). The difference theorists advocate a change within the school system; that is, it is the responsibility of the schools to build on the linguistic skills which the urban child brings to school (Williams, 1970).

The speech patterns of the black urban child are characterized by syntactical and phonological linguistic features that vary from features found in standard English (Wolfram, 1969; Williams, 1970; Fasold & Shuy, 1970). Stewart (1968) called the relationship between the standard dialect and the dialect spoken by the black child a "quasi-foreign language situation" because "the

structural relationship between the two are in part like two completely different foreign languages and then in part like two style levels of one language" (Stewart, 1968, p. 3).

The syntactic structures which appear to most markedly differentiate the dialects of the two speech communities, i.e., middle-income white and low-income black, are the auxiliary and the modal verbs, tense marker and copula (Williams, 1970; Dillard, 1972; Fasold & Shuy, 1970). These seemingly small differences lead to dissimilarities between the two dialects in more complex grammatical structures such as negation and question formation.

The use of several noun and verb inflexional suffixes are grammatically distinct between the two dialects. The specific morphological details in question include expression of the possessive relationship, the number distinction in nouns and verbs, the past tense in verbs, and the cases of pronouns (Wolfram, 1969; Bailey, 1968; Fasold & Shuy, 1970; Ramer & Rees, 1973). The standard dialect reference rule for each of these constructions requires the addition of the inflectional ending, -s or -ed, to the appropriate noun or verb; whereas, the black speaker's rules on grammar require no such obligatory endings. In his dialect there may be other linguistic and nonlinguistic indicators operating within the

environment to express these relations (Bailey, 1968; Wolfram, 1969), e.g., He don' walk to the door once, I got two hot dog. Focus on the use of the noun plural suffix, a native English formative which is fully productive because of the systematic nature of the rules governing production, exemplifies the type of differences and the rules followed to generate such a difference.

Linguistic Rules for the Noun Plural Inflection

Presence of the noun plural suffix in the speech of black speakers, across all social classes, occurs more often than any of the inflectional endings mentioned above. Wolfram (1969), in an attempt to linguistically describe features of the dialect used among black speakers in Detroit, tabulated the relative frequency of occurrence of the inflectional morpheme -s, as it is found in the possessive, noun plural and third person singular positions. It was found that absence of the plural marker occurred somewhat less than absence of the possessive suffix, and considerably less than the absence of the third person present tense marker, across black social groups studied. The frequency with which the noun plural marker was omitted varied across black socioeconomic classes, with the lower working class black speaker showing the highest percentage of noun plural suffix omissions. Ramer and Rees (1973) substantiated Wolfram's findings in their

investigation of the stages of acquisition of standard English inflectional features in black lower class socio-economic children. Using nonsense words to test the child's use of morphological rules, it was found that children, preschool to eighth grade, used the plural noun suffix consistently more often than the possessive, past tense or third person singular present tense suffix endings. In a bidialectal imitation task, Baratz (1969) and Stephens (1976) found that black preschool and elementary children successfully repeated and inserted the noun plural suffix in sentences from both dialects.

Definition of the different type of environments in which absence of the noun plural suffix occurred would enable the linguist to describe the linguistic rules governing the production of this inflection. Bailey (1968) and Stewart (1966) suggest that the linguistic rules in operation are similar to the rules used to express plurality in Creole languages. In Creole languages, when plurality has been expressed by the quantifier before the noun, omission of the noun plural suffix becomes obligatory as long as clarity is preserved. Fasold and Shuy (1970) suggested, however, that this claim was partially invalidated by the abundance of linguistic data obtained from the Detroit Dialect Study, in which a quantifier was not always present in the absence of the noun plural suffix. The data of Fasold and Shuy (1970)

suggested a difference in classification of mass and count nouns. The black speaker regarded the word "movie" as a mass noun, needing no plural suffix attached to the noun as in: "You know, like Saturday night at the movie" (Wolfram, 1969, p. 145). In the standard dialect, nouns such as deer, sheep and fish never need a plural suffix marker; whereas, the suffix marker is optional in black dialectical patterns. Wolfram (1969) and Fasold and Shuy (1970) found that nouns of measure and weight which required a numerical quantifier were not marked by the inflectional endings, e.g., nine pound and thirty-five cent.

Fasold and Shuy (1970) also suggested that the use of the noun plural suffix can vary among black speakers from different geographic locals. Studies (Labov, 1964; Wolfram, 1969; Shuy, Wolfram, & Riley, 1967) conducted in large urban areas of Detroit, New York, and Washington, D.C. indicated that black Northern speakers with a Negro dialect use the plural suffix as a part of their grammar as opposed to the Southern speaker, whose usage is characterized by frequent absence of the noun plural suffix, particularly in the speech of young children.

Absence of the noun plural suffix has been attributed to the phonological environment of a word. Whenever the noun plural suffix is preceded by the nasal /n/, absence of the suffix may result (Wolfram, 1969).

Wolfram (1969) explained that a phonological constraint, in this instance, would be of very minor importance because a phonological constraint cannot substantially account for variability in grammatical forms.

Developmental Stages in the Acquisition of the Noun Plural Morpheme

The noun plural morpheme is one of the earliest English inflectional endings to emerge in the child's speech (McNeill, 1970). Studies have shown that this order is preserved in the acquisition of English inflections such that one can predict the child's mastery of the noun plural inflection before the mastery of rules for the possessive or the third person singular present tense forms (Cazden, 1973; McNeill, 1970; Brown, 1970; Wolfram, 1969; Fasold & Shuy, 1970; Ramer & Rees, 1973).

The order of development in English morphology is inversely related to the scope of the inflection, such that rules with the fewest exceptions appear earlier than rules of restriction. More specifically, Cazden (1973) noted that "Morphemes have differential cognitive weight, depending on structural complexity" (p. 230). Studies (Slobin, 1973; Ervin-Tripp, 1973) have shown also that the order in which morphemes are acquired is only weakly correlated with frequency of occurrence of the noun plural form in the adult speech to which the child has been exposed. Rather, the patterns of regularity

found in adult speech have enabled the child to induce rules of grammatical features as observed by Menyuk (1964):

From the words, phrases and sentences that he hears, he abstracts certain rules which he uses until additional information causes him to revise them. This additional information may take the form of exposure to new vocabulary, experience with irregular sequences, or corrections by parents. He may modify his rules repeatedly to incorporate these new data, although a lag may exist between exposure to relevant data and active use of new rules based on those data. (p. 545)

Cazden (1973) described the developmental continuum as occurring in four periods. Period A was defined by the absence of the inflection, and Period B was characterized by occasional production with no errors or overgeneralizations. When the inflection occurred, it was used correctly; however, there were many instances where the inflection was required but omitted. During Period C, correct productions increased markedly but errors and overgeneralizations also occurred. The interim between Period B and C was significant, according to Cazden (1973), because it marked a point at which the child showed that he had a productive rule signalled by his systematic overgeneralizations and errors. Period D was defined as the point of acquisition because the inflection was used correctly at least 90% of the time in contexts where it had been required.

When children first learn the plural suffix, it is attached to familiar words, then generalized to

unfamiliar words (Ervin, 1964; McNeill, 1970; Koziol, 1974). Berko (1958) found that children correctly added the /-ɪz/ allomorph to the noun plural inflection for the word glass but did not generalize the allomorph to the nonsense words which she presented. Subsequently, Ervin (1964) observed that there was a time gap between the attachment of the noun plural form to a familiar word and the generalization of that form to new words. For example, she found that a two-week period elapsed between the time when the plural allomorph /-s/ was attached to a familiar word, block, and when the child attached /-s/ to the new word, bik.

In the same manner, time of acquisition differs for allomorphs of the noun plural form (Ervin, 1964; Ramer & Rees, 1973; Koziol, 1974; Anisfield & Tucker, 1973; Berko, 1958). Productive rules for /-s/ and /-z/ are acquired followed by productive rules for the allomorph /-ɪz/. Berko (1958) administered a set of nonsense words to preschool and first grade children, four to seven years of age, in an attempt to describe their use of morphological rules. The children were able to form the plural of nonsense words requiring the /-s/ or /-z/ but did not pluralize nonsense words requiring /-ɪz/; instead, they repeated the stems as if the words were already plural. Berko (1958) described their rules for formation of the plural as "a voiceless sibilant after a voiceless consonant and a voiced sibilant after all other words" (p. 173).

Anisfield and Tucker (1973) devised a production task similar to Berko's in which the child was to respond with the correct plural form of a nonsense word presented in the singular form. The kindergarten subjects made more errors with words requiring /-ɪz/ than /-s/ or /-z/. A significant difference was found between the /-z/ and /-ɪz/ errors, the same finding reported in Berko's study. Ramer and Rees (1973) also showed that productive rules for the /-s/ and /-z/ were acquired before the productive rules for /-ɪz/ in the results obtained from the administration of a modified version of the Berko Test of Morphology presented to 90 black preschool, elementary and eighth grade students of lower socioeconomic status. The preschoolers, in fact, never added the /-ɪz/ inflection to any stimulus words. The kindergarten and first graders added /-ɪz/ to only one word ending in a sibilant and that was glass, the only real word in the list. Of the 25 fifth and eighth graders, only seven added the allomorph /-ɪz/ to a nonsense word on the list.

The developmental status of the allomorphs /-s/ and /-z/ seem to differ in the process of acquiring production rules (Berko, 1958; Anisfield & Tucker, 1973). The /-s/ is more restricted in its uses and appears to be mastered after the /-z/ (McNeill, 1970). On a production task in which the three allomorphs appeared an equal number of times as a plural suffix, Anisfield and

Tucker's (1973) kindergarten subjects made more errors (41%) with /-ɪz/ names and fewer errors with /-s/ names (32%) and /-z/ names (28%). The difference between errors on /-s/ and /-z/ plural forms was not significant. Berko (1958) described the /-s/ as the "second least common of the productive allomorphs" (p. 172). Her subjects used this allomorph in linguistic environments where phonological rules dictated only its presence (see Table 1 for a definition of these linguistic environments). For words which could be pluralized with either allomorph, that is, words ending in a vowel, semivowel, /r/, /l/ or /n/, the children never added /s/. Their response was to add /-z/ or leave the ending in singular form. Addition of the /-z/ allomorph was the most extensive morphological rule of Berko's subjects. Berko also found a significant improvement in the performance of the first graders as compared to the preschoolers in their responses to stimuli requiring a /-z/ or /-s/ allomorph, specifically on the words cra and lun. For these two words, the /-s/ was never the chosen response by the children at either grade level.

Validity of the inferences made by Berko from results in her study has been questioned by Anisfield and Tucker (1973) because of the limitations in the test design. Berko had an unequal distribution of the three allomorphs: five /-ɪz/ test items, four /-z/ test

Table 1

Summary of the Productive Allomorph of the Plural Noun Suffix

Allomorph	Phonological Condition	Example
/z/	occurs after all other stems specifically those ending in /b, d, g, v, ʒ, m, n, ŋ, r, l/, vowels and semivowels	bids /brɪdz/ clings /klɪŋz/ woes /wəʊz/ girls /gɜːlz/
/s/	occurs after stems that end in /p, t, k, f, θ/	hops /hɒps/ cliffs /klɪfs/
/ɪz/	occurs after stems that end in /s, z, ʃ, dʒ, tʃ/	glasses /ˈglæsɪz/ watches /ˈwɒtʃɪz/ garages /ˈɡærədʒɪz/

items and one test item that the subject could respond with the /-s/ or /-z/ allomorph. Such a distribution "precludes making all possible error comparisons" (Anisfield & Tucker, 1973, p. 213). Second, Berko structured a one-word response production task, instead of several types of production tasks, to abstract more information about the rule system children use. Anisfield and Tucker (1973) also noted a possible problem with the placement of numbers before each noun plural response form.

In a series of research studies Anisfield and Tucker (1973) extended Berko's methods, incorporating the suggestions mentioned above. They found that even with an equal distribution of the allomorphs, the results were very similar to Berko's findings. An analysis of variance for the three production tasks revealed a significant difference among allomorphs and among tasks. In each task, significantly more errors occurred with /-ɪz/ than with either of the other allomorphs. There were no significant differences between words with /-s/ and with /-z/ in any of the three production tasks.

The order of acquisition for noun plural allomorphs seemed to be very similar for all subjects sampled (Berko, 1958; Anisfield & Tucker, 1973; Cazden, 1973; Ramer & Rees, 1973; Koziol, 1973) but the rate of acquisition varied, dependent upon individual differences. Controlled studies (Berko, 1958; Ramer & Rees, 1973;

Anisfield & Tucker, 1973; Koziol, 1973) and naturalistic studies (Cazden, 1973; Fraser et al., 1963) were not in agreement as to the "date of acquisition." The controlled studies sampled school aged children primarily and found that first graders had not fully acquired use of the noun plural suffix such that noun plural suffix rules were not easily generalized to new words. Naturalistic studies dated acquisition of the noun plural inflection prior to age four but definitely by age five. Chronological age differences in acquisition were attributed to the use of artificial or nonsense words as opposed to real words, the definition for time of acquisition, the amount of data gathered on one child vs. a group of children, the unfamiliarity of the child to the testing situation (Brown, 1974). Information from both types of research is of value in describing a child's linguistic behavior during the language acquisition period.

Black children were not sampled in the majority of controlled and naturalistic studies (Berko, 1958; Fraser et al., 1963; Anisfield & Tucker, 1973; Cazden, 1973; Koziol, 1973) in which the morphological rule system of children was described. Generalizations from these studies may not be completely applicable to the black child's development of rules for the noun plural suffix, in view of the fact that only a few controlled studies (Ramer & Rees, 1973; Baratz, 1969; Shriner &

Miner, 1968; Torrey, 1969; Stephens, 1976) and no naturalistic studies have investigated the linguistic behavior of the young black population. Shriner and Miner (1968) tested the performance of matched "culturally disadvantaged" and "culturally advantaged" preschoolers on an expressive and a receptive task to compare their ability to apply morphological rules to unfamiliar situations. No description was made of the rules which the children used; however, "there was no difference in both groups' ability to apply morphological competence to unfamiliar situations" (p. 609). Ramer and Rees (1973) attempted to describe when black children acquire standard English morphological suffix rules, using a modified version of the Berko Test. Similar results to Berko's (1958) findings were noted in the linguistic behavior of the black child and the white child, in terms of the order of acquisition and possibly the rate of acquisition, since Ramer and Rees' (1973) sample included children from preschool to fifth grades. Baratz (1969) and Stephen (1976) noted that the noun plural suffix is one of the earlier inflectional suffixes to be acquired by black children, a fact also substantiated by Torrey's research on the black child's use and understanding of the sibilant suffixes in the English language. Such findings suggest similarities to the general developmental patterns described in previous studies (Berko, 1958; Ervin, 1964;

Brown, 1974) but a more detailed description would provide added information about likenesses and possible differences. Susan Ervin-Tripp (1973) suggested that more in-depth investigations into the linguistic behavior of the black child may also generate "questions of interest in comparative studies outside the hypothesis of difference, such as universals of order and contingency for different features" (p. 264).

Comprehension and Production

To analyze a child's method of pluralization, one must test comprehensive and productive performance to determine the aspects of the grammatical structure the child has succeeded in mastering and internalizing, whether or not he uses them in practice (Anisfield & Tucker, 1973; Fraser, Bellugi, & Brown, 1963; Ervin-Tripp, 1973). In addition to the three production tasks, Anisfield and Tucker (1973) presented three recognition tasks to their kindergarteners. Comparing performance in the recognition and production tasks revealed that, in the production tasks, /-s/ and /-z/ were of equal difficulty and /-ɪz/ was significantly more difficult; whereas in the recognition tasks, more errors occurred with /-s/ and with /-ɪz/ than with /-z/. It seemed that these kindergarten subjects understood rules governing the allomorph /-ɪz/, but mastery on the production level

had not occurred. However, the allomorph /-z/ seemed to have been internalized and mastered expressively.

The relationship between understanding and speaking in the course of language development has been under constant investigation (Fraser & Brown, 1963; Fernald, 1972; Bloom, 1974; Ervin-Tripp, 1973; Anisfield & Tucker, 1973). Fraser, Bellugi and Brown (1963) devised imitation, production and comprehension tasks to compare development of production and comprehension in twelve three-year-olds. The level of comprehension was tested by the child's correct identification of pictures named, using contrasting sentences (e.g., The sheep is jumping vs. The sheep are jumping). Production was tested in two ways: (a) correct imitation of contrasting features in sentences and (b) correct production of contrastive sentences as it is appropriately matched to a picture illustrating the grammatical contrast. Imitation proved to be the most advanced task in this group. Production, in the second sense, was more difficult than understanding. Production which was judged to be the most complex task depended upon a "knowledge of referential distinctions" (p. 37), in addition to the operations in an imitation task.

The results of Fraser, Bellugi and Brown (1963) have not been readily accepted by Bloom (1974), who questioned the appropriateness of the length of the sentences used in the imitation task. Sentence length

seemed to be within the child's auditory memory span and, therefore, did not provide the investigator with a true picture of the child's coding abilities, according to Bloom (1974).

If a sentence is too long for the child to hold in memory he will process the meaning of the sentence, and his imitation of it, although shorter and inexact, will provide some evidence of (1) the extent to which he understood it and (2) what he knew about speaking such sentences. (p. 298)

Fernald (1972) questioned the reliability of the scoring procedures used by Fraser et al. (1976). According to Fernald, on the comprehension task, probability of a right or wrong answer was 50%; however, on a production task, the probability of guessing correctly was less than 50%, due to options available, such as matching the produced sentence with the correct picture, matching the produced sentence with the wrong picture, or giving a novel response. He suggested that the biasing of the production task scores caused the comprehension scores to exceed the production scores. Replication of the Fraser, Bellugi and Brown (1963) study showed that comprehension and production were very close together, with no significant difference between them. Fernald's argument has been supported by Baird (1972).

Even though studies have questioned the premise that comprehension precedes production, none of the studies have contradicted the premise. Rather, they

simply have shown that the two processes may be closer in operation than previously claimed.

Sociolinguistic Variables to Be
Considered

When the black child enters school, he is initially encouraged to incorporate more standard English features in his speech. His reactions to this persistent suggestion may be one of acceptance or rejection (Plummer, 1970; Labov, 1965). Several factors affect a black child's motivation to acquire more standard English linguistic features into his speech behavior.

One very significant factor is the positive feelings black people have begun to express about themselves and among themselves (Williams, 1975; Labov, 1965). Racial pride has evolved a fact which is sure to affect the linguistic behavior of black speaker/listeners. In fact, a group of black scholars have created the term Ebonics, which means "the study of the language of black people in all its cultural uniqueness" (Williams, 1975, p. VI). Black scholars and the black community have begun to challenge linguistic issues in hopes of changing the black student's perception of reality (Taylor, 1975).

Second, children pass through stages in which various forces act upon their linguistic behavior as the child tries to conform with the adult linguistic norms (Labov, 1965). On the first level, mastery of the main

body of grammatical rules and the lexicon of spoken English are learned under the linguistic influence of the parents. The second stage, which spans from age five to twelve, is an equally important stage. During these preadolescent years the child learns the use of the local dialect in a form consistent with that of his immediate group of friends and associates. The vernacular then becomes the established response in everyday speech and the influence of the parent is submerged under the peer group. Stage three is described as the age of "social perception." The early adolescent comes into wider contact with the adult world and is exposed to other forms of speech. Gradually, he becomes aware of the social significance of the local dialect of his friends and responds by trying to incorporate a few adult speech patterns into his speech. When the child enters high school, his exposure to the outside world widens and demands on his linguistic behavior vary. Labov (1965) named this stage "stylistic variation" because the adolescent begins to learn how to modify his speech in the direction of the prestigious dialect, in formal situations and somewhat in casual speech. Labov (1965) recorded the extent to which young people grasped the linguistic norms of the adult speech community as 52% at ages 8-11 and 62% at ages 16-17, with the percentage increasing to 84% after age 20.

Stewart (Dillard, 1972) described a similar acquisition process, but he called the phenomenon "age-grading." Stewart theorized that as the black child became older, he adjusted his speech patterns to patterns of the language used within the mainstream culture. Stewart traced the linguistic growth from the "basilect" stage, where most of the child's language was full of black dialect features, to the "acrolect" stage which is the linguistic behavior most acceptable in this society, defining age ranges with each new grammatical feature acquired.

Stewart (Dillard, 1972) and Labov (1965) agree that the socioeconomic status of the family affects the child's rate of growth to prestigious adult norms. Data to support this fact were gathered on the children of informants residing in New York City. At least 50% of the responses of children from the middle-class and a few from the working class reflected a recognition of the adult norms at the early age of 8 to 11, and this figure rose to 80% and above by age 19. Children from the remainder of the working class and all of the lower class families were below the 40% mark in their responses at 8 years and leveled off at the 60% mark or below by 19 years of age. Labov (1965) predicted that those youngsters who were below the 50% point at 18 or 19 years of age would probably not reach any degree of conformity

to adult norms while they still had the learning ability to match performance to evaluation.

The teacher-student interaction in the classroom is another variable affecting linguistic performance. Research conducted in this area has shown that teacher attitudes are related to student achievement (Jacobsen & Rosenthal, 1968); however, teacher attitudes toward the language of the black child needs to be determined if these attitudes are related to achievement (Covington, 1975; Williams, 1970; Taylor, 1975).

Proficient use of the prestigious dialect feature can be achieved by the black child; but there are psychological, sociological and other nonlinguistic factors impinging on the rate of acquisition.

Sex

Dillard (1972) stated that the speech of black female, past the age of 14, exhibited more standard linguistic features than did the speech of the black male of a comparable age. The most prevalent reason given to support this finding was the peer pressure which the black male, as opposed to the black female, faced during his adolescent life. On the other hand, sex was not found to be a discriminating variable in young children, around the age of six, according to Dillard (1972) and Ramer and Rees (1973); however, Stephens (1976) found sex to be a variable of differentiation in performance

skills between black preschool children. In Stephens' (1976) study, black preschool females displayed a higher degree of bidialectal facility on imitation tasks than black preschool males. Further proof to support sexual differences in the rate of acquisition of prestigious dialect feature, however, is needed.

Interviewer

The majority of the literature published about the black child and his language competencies have been researched by white investigators (Baratz, 1969; Williams, 1970; Williams, 1975; Alatis, 1970). Ramer and Rees (1973) have questioned the linguistic results of samples of black children being interviewed by a white experimenter. Ratusnick and Koenigsknecht (1975) found that black children's test scores on the Goodenough Draw-A-Man Test were higher when evaluated by a "same-race" clinician and white children performed better with a white clinician. Black lower socioeconomic status children performed significantly better with a black clinician than the black middle socioeconomic status children. Labov (1970) cited an example in which the race of the examiner was not as important a variable during the gathering of a language sample as was the topics discussed by the interviewer and interviewee.

Nonetheless, black interviewers have been used rarely in language acquisition studies, and the different

aspects of its effects on the black child need to be researched more thoroughly.

Summary and Statement of
the Problem

Analysis of the developmental stages of isolated grammatical features has been initiated by some researchers (Ervin-Tripp, 1973), but the acquisition patterns of more features need to be described. With such a storehouse of knowledge about the black child's language, norms could be established with the black child as the reference point. This normative information on development is much needed for effective child language assessment of black children. Research studies must move away from comparative studies like those in the sixties (Williams, 1975) because the white child is still the reference point used, whether it is stated or not. Thus, with the primary goal of shedding some light on the language development of black children, the present investigation will attempt to determine:

1. In what order the three allomorphs--/-s/,
/-z/, and /-IZ/--are acquired.
2. Whether the order of acquisition reflects a progression from the simpler to the more complex morphological rules.
3. Whether comprehension precedes production of allomorphs during language acquisition.

4. Whether the one-word response in production tasks correlate with the responses given in tasks requiring connected speech.

5. What role sex and age of the subject play in the acquisition of the plural inflection.

CHAPTER II

EXPERIMENTAL PROCEDURES

Subjects

All subjects who participated in this study were selected by age, sex, and grade level. One hundred black, inner-city students, enrolled in the Detroit Public Schools, were randomly selected from the preschool, kindergarten, first, third, and fifth grades. In each grade level sampled, 20 subjects, 10 boys and 10 girls, were chosen. Boys and girls at each grade level were matched by chronological age which ranged as follows: preschool (5 yrs. 5 mo. to 4 yrs. 60 mo.), kindergarten (6 yrs. 4 mo. to 5 yrs. 6 mo.), first (7 yrs. 4 mo. to 6 yrs. 7 mo.), third (10 yrs. to 8 yrs. 6 mo.), fifth (14 yrs. 6 mo. to 10 yrs. 6 mo.).

The research was conducted in a Title I school within the Detroit School District. Subjects were not randomly sampled exclusively from the class rolls of Title I children because those children were identified solely on academic need (U.S. Department of Health, Education, and Welfare (OE) 73-07104). Instead, all subjects

were randomly sampled from the target school's student enrollment in each grade. The economic status of each child's family was assumed to be on the same general level because (a) all children lived within the school attendance area (there were no children bussed into the immediate area) and (b) the Federal government's specifications for the selection of target schools to receive Title I funds state that the majority of the families within the school's attendance area be described as having lower socioeconomic status.

The Title I school selected was identified as having no upper middle-class families, a small number of lower middle-class families and a large number of lower socioeconomic class families within the school's attendance area (U.S. Census of Housing, 1970).

All subjects were required to meet the following criteria: (a) possess normal hearing in both ears, (b) be enrolled in the regular classroom, (c) come from a home in which only English was spoken and both parents were black. To satisfy the requirements of normal hearing, a pure tone screening test was administered at a level of 20 dB HTL (ANSI, 1969) with octave intervals of 250 Hz to 8000 Hz. Requirements (b) and (c) were provided through information from school records.

Informal measures described by Beasley and Beasley (1973) were used to assess the presence of

deviant patterns of articulation. Each subject identified picture items from the Bryngelson and Glaspy Speech Improvement Series, counted from one to 12 and engaged in a brief segment of conversational speech with the experimenter. Any distortions, omissions, or substitutions recorded for a subject were noted when the data were analyzed. No subjects were penalized for articulation errors.

Test Environment

All subjects were tested individually in their familiar school setting. An adequately illuminated and ventilated room in a quiet section of the school was equipped with a Sony Solid State Cassette Corder, Model TC 180 AV (frequency response unknown) for the experiment. The cassette recorder was placed 8 to 12 inches from the interviewer and the subject so that all verbal responses were recorded. An experienced speech pathologist, excluding the interviewer, was also seated in the room to record the verbal responses made by the subjects. The subject was seated facing the interviewer and diagonally to the recorder. Binaural earphones (AKG Model K-240), connected to an Ampex tape recorder, Model 601, were placed securely over the subject's ears so that the pre-taped test stimuli could be heard more clearly.

Test Stimuli

The tasks selected attempted to describe objectively each subject's receptive and expressive abilities.

Production Tasks

To permit maximum comparison of research completed prior to this study, particular sections of the Berko Test of Morphology were used in the first production task. Colorful picture cards depicting nonsense objects were drawn to be used with the 10 noun plural test items from the Berko Test of Morphology, an expressive task in which one-word responses are elicited from the subject.

Each test sentence was read by the interviewer as she pointed to the appropriate picture. The subject was asked to supply the missing word. The subject's responses were recorded phonetically and no value judgment of the responses was given to the subject, e.g., the interviewer did not tell the subject that his response was incorrect or correct. (Test sentences and instructions are recorded in Appendix A.)

Test stimuli in the second production task consisted of a pair of identical grammatical sentences, with the nonsense noun alternating between the presence or absence of the plural inflection in one of the sentence pairs. In each sentence, the nonsense noun functioned as a subject or the direct object. Nine sentence pairs were presented orally to the subject, after which the

subject repeated the sentence which he heard. Two practice sentence pairs were given prior to the presentation of the test sentence pairs to make sure the subject understood the task. One of the practice sentence pairs was worded in the following manner:

The /fɪk/ can jump high.

The /fɪks/ can jump high.

All responses to the task were accepted and recorded phonetically. (Test sentence pairs and instructions are presented in Appendix A.)

The third production task was devised to compare the type of plural responses the subject would give if the quantifier preceding the noun were numerical or non-numerical. The task was also aimed at trying to find a pattern between the plural responses given to real words, generated by the subject, and nonsense words presented to the subject by the interviewer.

Two sets of colorful action picture cards, which illustrated a different event in each set, were selected as pictorial topics to which young people could easily relate. Nonsense animated figures were the characters in each pictured event. One set was shown to each subject.

The interviewer encouraged each subject to give a brief description of the action occurring in the particular picture set to create interest in the characters.

Instructions were as follows:

I have some pictures here that I want you to see. They're kind of funny. Would you look at them and tell me what is happening.

Following the brief description, the subject was asked by the interviewer:

What are all those things (at the birthday party), (on the playground)? What would you call them if you had to name them? _____. Let's take them one at a time. What would you name this one? _____. Does he look like anything you've ever seen before? What?

The subject was encouraged to give a real name to each nonsensical figure; however, nonsensical names were also accepted. After the subject selected a name for a nonsensical figure in the picture set, the interviewer asked the following:

Suppose you had two of those, what would you call them? Two _____. Now, let's suppose you had a lot of them. What would you call them? A lot of _____.

Five figures were selected to be named by the subject, and then five nonsensical names in the singular form were assigned to those same characters by the interviewer, with the following instructions:

Now I am going to name the characters. This is a _____. If I had two of them, I would have

two _____. If I had a lot of them, I would have a lot of _____.

In this exercise the subjects pluralized the singular form of five real and five nonsense words. (Instructions and a list of the nonsense test items are listed in Appendix A; because of the diversity in each subject's responses to the character in the story, real items are not listed in the Appendix.)

Recognition Tasks

The first recognition task was devised to test the subject's receptive knowledge of morphological rules in the English language. The stimuli used to test the comprehension of noun plurals were illustrated picture cards. One card displayed a picture of the single noun; another card displayed the plural of the singular stimulus form and was accompanied by two foils that included a picture of the singular form. The interviewer identified the test item, "This is a gat /*gæt*/. Show me gats /*gæts*/." The subject responded by pointing to the plural form of the singular stimulus.

The subject's response to the second recognition task was executed in the same fashion as the first, but the directions were not the same. Two pictures were shown, and in each a different object or action was displayed. The interviewer, using a nonsense word, named one of the pictures. The subject pointed to the

corresponding picture named by the interviewer. For example, in testing the allomorph /-z/, the subject was shown two pictures, including one singular and one plural but each of two different animals. The interviewer then identified one of the pictures, e.g., /bɪmz/. The subject pointed to the picture which he felt best described the word given by the interviewer. (Test words and instructions are presented in Appendix B.)

The third recognition task was devised to obtain evidence of the subject's understanding of the noun singular and plural form when they are variant in two identical sentences. A pair of grammatical sentences, which described two picture cards shown simultaneously, were read by the interviewer. The subject was instructed to point to the picture which best described the sentence read by the interviewer. Both sentences were then read. (The test sentences and instructions are listed in Appendix B.)

All pictures used in the production and comprehension tasks were mounted in a large loose-leaf notebook. The pictures were inserted between transparent plastic covers in order to prevent them from getting soiled as a result of constant handling. Pairs of pictures, which were used in Recognition Tasks 2 and 3, were mounted side by side in a random order to prevent problems between the order in which a test item was presented and the position

of the picture on the page, e.g., placing the picture on the left or right side of the page.

Presentation of the comprehension and production tasks was rotated, whereby half the subjects were presented the production tasks first and the comprehension tasks second and the other half received the comprehension tasks first and the production tasks second. Individual comprehension and production tasks were also presented to the subjects in a rotated manner, e.g., subject one received comprehension task 1 first; subject two received comprehension task 2 first and so on.

General Procedures

After each child had been screened and finally selected to participate in the study, articulation assessment measures were administered and results recorded.

Presentation of material was arranged so that the subject was unable to infer correct responses from any kind of interrelationship among test variables, e.g., positions of the pictures and orders of the tasks presented. Each set of tasks was presented to the subject on separate days, i.e., subjects who received the production tasks first and recognition second were given the production tasks the first day and the comprehension tasks the second day. The entire testing procedure for each set of tasks lasted approximately 20 to 30 minutes.

Analysis of the Data

During a small pilot study, it was discovered that the children in the present study tended to add little voicing to the /z/ sound, making it difficult for the investigator to identify positively the sound as a /z/. Constant repetition of the subject's response would have only called extra attention to what the interviewer wanted. True assessment of the voicing quality for every item, by every subject, was not absolutely determinable by the interviewer or the recording clinician on an auditory basis and could only be made positive by the use of the spectrograph. Thus, prior to analysis, the results for the two sounds were pooled.

After the data were collected, the examiner and a recorder compared their information on the subject's response form. Identical recorded responses signalled agreement between the two judges as to the occurrence or absence of the appropriate morpheme. When dissimilar judgments were made, the taped response was played in the presence of the examiner, the recorder and a third experienced speech pathologist. Common agreement between at least two of the judges finalized the decision.

A Multivariate Analysis of Variance with the two independent variables of production and comprehension and three dependent variables of sex, order, and grade was performed upon the data. Appropriate post hoc

procedures were employed to further detect differences between variables found to be statistically significant.

Percentages of the absence or presence of the plural inflection for each production and comprehension measure, according to grade and sex, were tabulated and plotted graphically, so that an analysis of the linguistic behavior over time could be observed.

CHAPTER III

RESULTS

In order to describe adequately the linguistic growth patterns of the plural inflection in child language acquisition, it was necessary to perform several types of analyses. The Multivariate Analyses of Variance (MANOVA) substantiated the thesis that grade was an important factor in the subjects' performance on the pluralization of norms. The upper elementary subjects in grades three and five repeatedly scored higher than children in the lower elementary grades, i.e., preschool, kindergarten, and first grade. Sex and order of presentation of the six tasks were not found to be significant. Further analysis indicated that the subjects in grades three and five were able to add the appropriate allomorph to nonsense words more consistently than subjects in the lower grades. Subjects in all grades were able to attach the noun plural morpheme to real words with little difficulty. In the production tasks, no subject at any grade level responded with the appropriate allomorph 100% of the time. In the comprehension tasks, the period in

which the subjects seemed more aware of the plural morpheme and its appropriate usage was first grade, with the third and fifth graders gradually increasing in accuracy thereafter. Even though preschool and kindergarten subjects did not score as high as first graders, they correctly identified the plural morpheme more than 50% of the time in the comprehension tasks.

Production Tasks

The Multivariate Analysis of Variance (MANOVA) supported the thesis that there are significant differences between grades ($F = 4.88$, $p < .0001$) in children's use of the noun plural morpheme, as assessed by the three dependent variables in the production tasks. Sex, on the other hand, did not appear to be a significant factor on this task ($F = .7043$, $p < .5523$). The order in which the tasks were presented was also not significant, a finding which indicated that the scores on the production tasks were not affected by the tasks being presented first or second ($F = 1.5267$, $p < .2142$). None of the interactions between the independent variables was significant (see Table 2).

A univariate analysis of variance showed that all three production tasks were significant by grade. (See Table 3 for the F Values of each production task.) Tukey multiple comparison post hoc procedures were then computerized on the sample mean scores to detect significant contrasts between means on the equal group sample sizes.

Table 2

Summary of the MANOVA for All Subjects' Performance
on the Production Tasks

Source	df	F	p <
Grade	4	4.8826	.0001
Sex	1	.7043	.5523
Order	1	1.5267	.2142
Grade x Sex	4	.5374	.8887
Grade x Order	4	.3710	.9724
Sex x Order	1	1.7597	.1618
Grade x Sex x Order	4	.8088	.6413

Table 3

Univariate F Values for Tasks by Grade

Variable	Univariate F	p <
Production A	6.8035	.0001
Production B	4.3605	.0031
Production C	14.7071	.0001
Comprehension A	5.0817	.0011
Comprehension B	7.3012	.0001
Comprehension C	11.1550	.0001

Tukey post hocs computed on the means of each grade level's performance on each production task indicated more exactly where differences between grades lay. A significant difference between the performance by fifth graders and the performance by preschoolers was evident on all three production tasks. On Production Task C, there was a distinct line of demarcation between upper and lower elementary children's performance, in that the mean scores of the third and fifth graders were significantly different from the mean scores of the children in preschool, kindergarten and first grades. On Production Task B, all lower grades showed no difference between mean scores, but significance in mean performance was evidenced between third graders and preschoolers. Significant mean scores on Production Task A were exhibited between fifth graders and all lower primary children--preschool, kindergarten and first grade. Table 4 lists the means and standard deviations of each grade level's performance on the production tasks.

Comprehension Tasks

The results of the Multivariate Analysis of Variance (MANOVA) on the Comprehension Tasks pointed to significant differences between grades ($F = 4.5051$, $p < .0001$) in their use of the noun plural morpheme. The independent variable of sex was found to be insignificant, a finding which indicated that there were no

Table 4
Means and Standard Deviations by Grade on Production and Comprehension Tasks

Tasks	Preschool		Kdg.		1st		3rd		5th	
	M	SD	M	SD	M	SD	M	SD	M	SD
Production A	3.0500	1.5035	3.4000	2.2804	3.7000	2.4942	5.0000	2.9380	6.6000	2.7606
Production B	15.4000	1.3139	15.7000	1.6575	15.9500	1.7614	16.9500	1.0990	16.8500	1.4965
Production C	10.8000	5.1258	9.9000	5.9463	11.1500	6.6275	18.3500	2.0590	18.4000	3.4702
Comprehension A	6.9000	2.3598	7.1000	3.1439	8.6500	2.4979	9.7000	.4702	9.1000	1.8890
Comprehension B	7.5000	2.0391	7.5000	2.5854	9.0500	2.4810	9.7500	2.3592	10.5500	1.9595
Comprehension C	9.7000	3.0279	9.0000	2.7530	11.1500	3.6746	13.8500	3.4834	14.5500	2.7999

differences between boys and girls at these grade levels in their use of the plural morpheme ($F = 1.3792$, $p < .2554$). The order in which the test stimuli were presented did not affect the subject's performance on the Comprehension Tasks ($F = .5568$, $p < .6452$). Finally, interactions between independent variables were not significant (see Table 5).

Table 5
Summary of the MANOVA for All Subjects' Performance
on the Comprehension Tasks

Source	df	F	p <
Grade	4	4.5051	.0001
Sex	1	1.3792	.2554
Order	1	.5568	.6452
Grade x Sex	4	.9189	.5289
Grade x Order	4	.6142	.8290
Sex x Order	1	2.4277	.0717
Grade x Sex x Order	4	.7890	.6616

A univariate analysis of variance performed on the data for task and grade showed that all three comprehension tasks were significant by grade. Table 3 lists the F values for each comprehension task.

Tukey post hocs computed on the mean values for each comprehension task showed that between particular grades significant differences in performance existed. On all comprehension tasks, there were significant differences between the mean scores of third and fifth graders to preschool and kindergarten children. The

upper elementary grades, three and five, had significantly higher mean scores than the lower elementary grades, i.e., preschoolers and kindergarteners. Table 4 lists the means and standard deviations of each grade level's performance on the comprehension tasks.

A Chi-Square Analysis was performed on the data to test for independence between the subject's performance on individual test items and his grade, in order to determine the relationship between how the subject responded to the test item and his grade level. The Chi-Square Analysis on the production and comprehension tasks reflected an overall tendency for the third and fifth graders to perform better than the preschool, kindergarten and first graders (see Figure 1). For each test item found to be statistically significant, errors in adding the appropriate plural allomorph decreased with an increase in grade level. Table 6 below indicates the overall differences in the subjects' performances on comprehension and production tasks.

Table 6
Summary of χ^2 Analysis for Production and Comprehension Tasks

Task	χ^2 Value	df	p <
Production A	52.11788	40	.0949
Production B	29.94925	20	.0707
Production C	112.29762	80	.0087
Comprehension A	55.81973	40	.0494
Comprehension B	56.29884	36	.0168
Comprehension C	79.44734	44	.0008

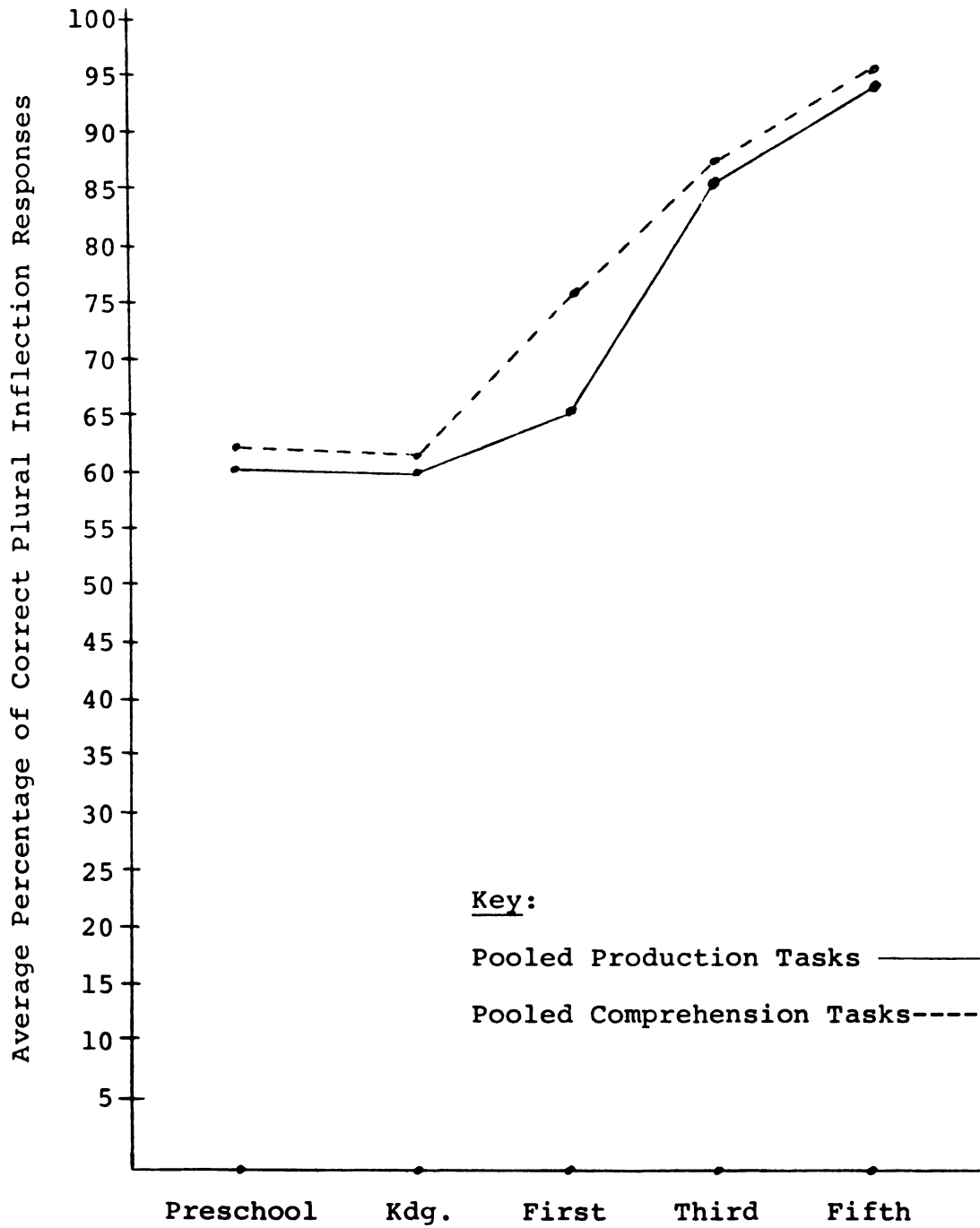


Figure 1. Average percentage of correct plural inflection responses on the production and comprehension tasks.

Production Task A

Performance on this task showed a gradual increase in the appropriate usage of the plural morpheme as grade increased (see Figure 2). All test items, real and non-sense, that required the allomorph /-ɪz/ to form the plural reached statistical significance (see Table 7). The significant test items ended in affricates and fricatives, /s, z, dʒ, tʃ/. In response to the singular form of these words, the subjects formed the plural by repeating the singular form of the nonsense word.

Table 7

Significant Test Items in Production Task A

Test Item	χ^2 Value	df	p <
1. /tæs/	23.36310	4	.0001
2. /glæs/	26.73108	4	.0001
3. /nɪz/	18.92706	4	.0008
4. /kædʒ/	18.85965	4	.0008
5. /gʌtʃ/	15.01776	4	.0047

The other significant item was the nonsense word, /hiɪf/ ($\chi^2 = 12.13922$, df = 4, p < .0163), which ended in the voiceless fricative /f/, a word final consonant that forms the plural with a /-s/ or a /-z/.

Subjects who erred on this test item omitted the morphological ending or added the /-ɪz/ allomorph to the base word.

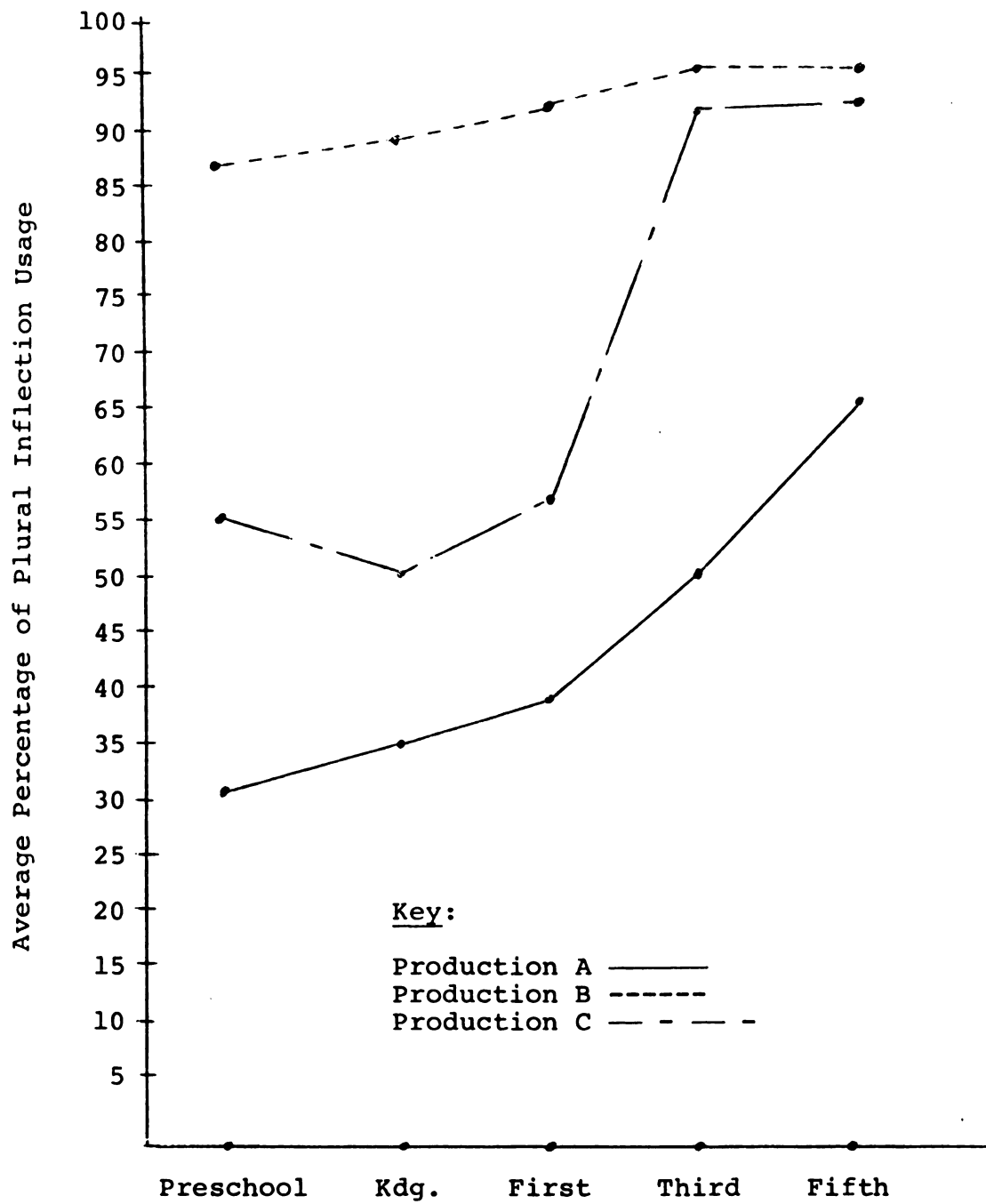


Figure 2. Average percentage of plural inflection usage by grade on the production tasks.

Production Task B

The analysis indicated that in the imitation task, subjects in all five grades repeated the nonsense words within each sentence correctly, as evidenced by the high percentage of correct responses within each grade level. (See Figure 2 for the percentage of correct responses by grade.) There was a significant difference in performance only between the upper elementary--third and fifth graders--and the preschoolers (see Table 4 for mean score differences).

On the first test item within the task, /*trebz*/ ($\chi^2 = 22.55717$, $df = 4$, $p < .0002$), omission of the plural allomorph occurred more frequently in preschool (11%) and kindergarten (9%) than in third (0%) and fifth (2%) grades. The singular counterpart /*treb*/ of this test item did not show significant differences between grades.

Production Task C

Real and nonsense nouns preceded by a quantifier were found to be statistically significant. The type of quantifier, numerical or non-numerical, made no difference in the performance of the preschoolers, kindergarteners, or first graders in contrast to the third and fifth graders (see Figure 3). Children in preschool, kindergarten and first grade made more errors in pluralization than the third and fifth graders (see Figure 3).

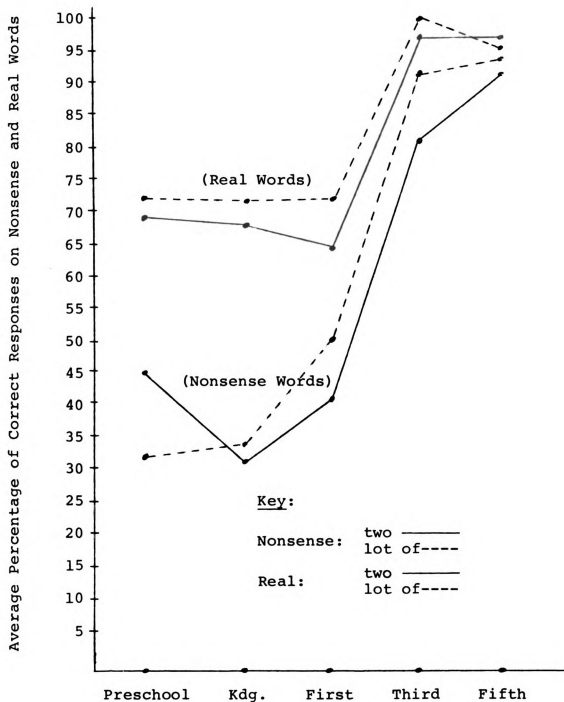


Figure 3. Average percentage of correct plural inflection responses on real and nonsense words.

Nonsense nouns, irrespective of the type of quantifier, were more difficult for the lower elementary children, as evidenced by the highly significant χ^2 values for all the nonsense nouns listed in Table 8. Nonsense nouns proved to be more difficult for children in all of the grades to apply the plural morphological rule, with the exception of the third and fifth graders (see Figure 3).

With real word test items, using both types of quantifiers, grade level differences were not exhibited in all cases. All nouns preceded by the quantifier "two" were significant. Three real nouns preceded by the quantifier "lot of . . ." were significant (see Table 8). These data further support the fact that third and fifth graders' performance on the pluralization of nouns surpassed that of the preschoolers, kindergarteners and first graders.

Comprehension Task A

Data from the six significant test items in this nine-item task revealed that as grade level decreased, errors increased. The kindergarten and preschool subjects responded to test items incorrectly more often than their upper elementary classmates. (The percentage of errors by grade is listed in Table 9.)

The initial increase in usage of the plural inflection began at first grade followed by a gain in the third grade but a decrease in the usage of the

Table 8

Summary of χ^2 Values for Nonsense and Real Nouns in
Production Task C

Test Item	χ^2 Value	df	p <
<u>Nonsense Nouns</u>			
#1			
lot of _____	38.75000	4	.0001
two _____	28.74396	4	.0001
#2			
lot of _____	29.10294	4	.0001
two _____	22.68462	4	.0001
#3			
lot of _____	33.08703	4	.0001
two _____	23.33333	4	.0001
#4			
lot of _____	30.34926	4	.0001
two _____	26.68269	4	.0001
#5			
lot of _____	22.56542	4	.0002
two _____	21.66667	4	.0002
<u>Real Nouns</u>			
#1			
lot of _____	9.41176	4	.0516
two _____	12.54902	4	.0137
#2			
lot of _____	8.62745	4	.0711
two _____	10.34727	4	.0350
#3			
lot of _____	7.84314	4	.0975
two _____	11.24661	4	.0239
#4			
lot of _____	16.66667	4	.0022
two _____	17.04718	4	.0019
#5			
lot of _____	16.22147	4	.0027
two _____	17.95231	4	.0013

Table 9

Percentage of Subjects in Each Grade with Incorrect
Responses to Significant Test Items
(Comprehension Task A)

Test Item	Grade	% of Subjects by Grade	Total % Inc. Responses
/moks/	Preschool	41	17
	Kdg.	35	
	First	11.8	
	Third	5.9	
	Fifth	5.9	
/naps/	Preschool	35.5	17
	Kdg.	41.2	
	First	11.8	
	Third	0	
	Fifth	11.8	
/tasiz/	Preschool	33.3	15
	Kdg.	46.7	
	First	13.3	
	Third	0	
	Fifth	11.8	
/figz/	Preschool	46.2	13
	Kdg.	30.8	
	First	15.4	
	Third	0	
	Fifth	7.7	
/pedziz/	Preschool	46	15
	Kdg.	40	
	First	6.7	
	Third	0	
	Fifth	6.7	
/zelz/	Preschool	44.4	18
	Kdg.	27	
	First	27	
	Third	0	
	Fifth	11.1	

appropriate plural morpheme by fifth graders. Even though the kindergarten and preschool subjects scored lower than subjects in the other grades, they correctly identified the plural morpheme at least 50% of the time (see Figure 4).

Each of the significant test items ended in a word final consonant that required one of the plural allomorphs: /moks/, /naps/, /figz/, /zelz/, /pedʒɪz/, /tʌsɪz/. These test items differentiated between grade level on the task of identifying noun plurals (see Table 9).

Comprehension Task B

The results of the data gathered in this task followed the trend exhibited previously, i.e., as grade level increased, errors decreased. Of the 12 test items, the five statistically significant items indicated a differentiation by grade on the identification of the presence or absence of the plural morpheme. The preschool and kindergarten subjects scored lower than the subjects in the upper elementary grades. The largest spurt of growth in the usage of the plural morpheme was at first grade, followed by a steady increase in usage as grade level increased (see Figure 4).

The three significant test items in which the plural morpheme was present included /kɛts/ ($\chi^2 = 18.44920$, $df = 4$, $p < .0010$), /tʌsɪz/ ($\chi^2 = 9.06667$, $df = 4$,

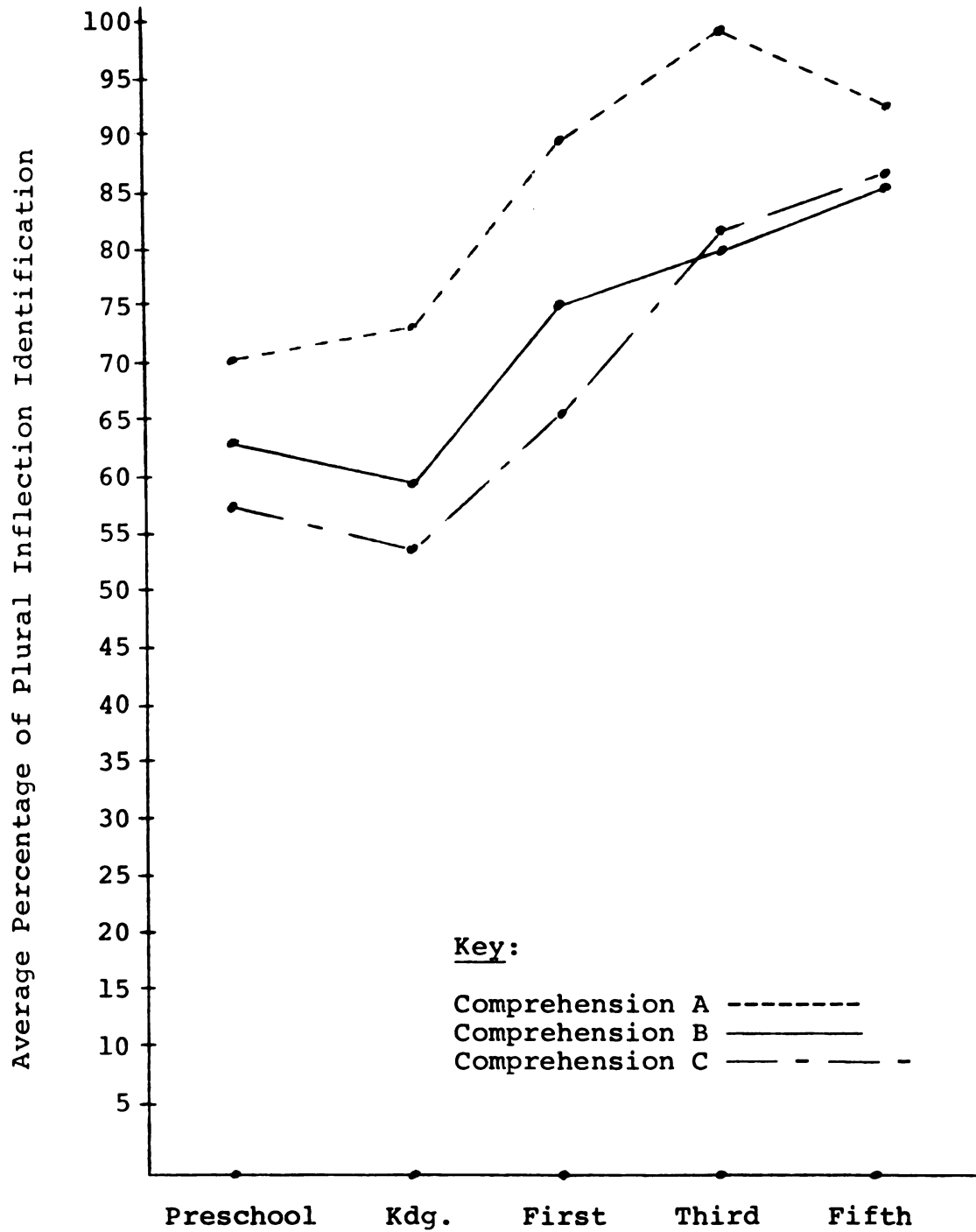


Figure 4. Average percentage of plural inflection identification by grade on the comprehension tasks.

$p < .0595$) and /næzzɪz/ ($\chi^2 = 9.43683$, $df = 4$, $p < .0511$). The two significant test items in which the plural morpheme was absent were /nom/ ($\chi^2 = 9.67033$, $df = 4$, $p < .0464$) and /baʃ/ ($\chi = 14.76445$, $df = 4$, $p < .0052$).

Comprehension Task C

Six test items of this nine-item task reached statistical significance. Such results signalled a differentiation in performance on the task by grade level. The preschoolers, kindergarteners and first graders had more difficulty matching the picture to the sentence that described the action in the picture than did the third and fifth graders. Appropriate usage of the plural morpheme increased at first grade, but the largest increase on this task was at the third grade (see Figure 4).

The six significant test items required all forms of the plural inflection and the singular form. The singular and plural form of each significant test word is listed in Table 10.

Summary

The results of this study revealed that significant differences existed between children in different grades in their use of the noun plural inflection. Overall, fifth graders performed significantly better than preschoolers on all tasks used in this study.

Table 10
Significant Test Items on Comprehension Task C

Test Item	χ^2 Value	df	p
/ mɪb /	14.55491	4	.0057
/ mɪbz /	14.55491	4	.0057
/ lez /	20.83333	4	.0003
/ lezɪz /	20.83333	4	.0003
/ tɹɛb /	19.73333	4	.0006
/ tɹɛbz /	18.31140	4	.0011
/ tɹɒp /	16.22147	4	.0027
/ tɹɒps /	16.22147	4	.0027
/ wɪb /	21.90476	4	.0002
/ wɪbz /	20.63492	4	.0004
/ ruʃ /	11.32699	4	.0231
/ ruʃɪz /	10.41667	4	.0340

On production tasks, except the imitative task, lower elementary subjects in preschool, kindergarten and first grade performed very similarly on the pluralization of real and nonsense words, a finding which was significantly lower than fifth graders. The plural suffix was added to the real word with less difficulty than nonsense words by subjects in all grades. The noun plural allomorph /-ɪz/ was more difficult for lower primary grade children, i.e., preschool, kindergarten and first grade, to correctly attach to root words than the /-s/ and /-z/ noun plural allomorphs. When the appropriate noun plural inflection was not added, the root word was repeated in its singular form.

On comprehension tasks, significant mean scores indicated that the fifth and third graders identified the

plural inflection correctly more often than did the pre-schoolers, kindergarteners and first graders; however, the lower elementary subjects were able to correctly identify the plural morpheme more than 50% of the time.

CHAPTER IV

DISCUSSION

The present investigation was designed to determine the patterns black children follow in acquiring the noun plural inflection. The results indicated that black children show similar attributes in the development of the noun plural inflection to English-speaking monolingual children from other ethnic backgrounds, but they have also shown certain peculiarities of their own. Current research has shown a trend toward an increase in the proficiency of morphological rule application with an increase in age. The stages in which the morphological rules for each plural allomorph appears has been sequentially ordered from the /-z/ and /-s/ to /-ɪz/, their appearance correlated with particular time periods. However, the age of mastery for all noun plural allomorphs within the language acquisition period has not been fully defined because of the noncorroboration of the data from naturalistic and controlled studies. The types of words to which the plural morphological rules are first applied have been familiar words, followed by unfamiliar words. Such

linguistic behavior has been exhibited by both elementary age male and female children. Findings from this study give support to the similarities which exist between black and white school-age children in the acquisition of the plural inflection but also point out differences.

Comprehension Rules for the Noun
Plural Inflection

On the comprehension tasks used in this study, the school-aged children steadily improved in performance as grade level increased. Beginning at third grade, there was a significant difference in performance such that the results suggest this period to be the one in which the black child has internalized the rules governing the noun plural suffix and can recognize differences in meaning which occur when the noun plural suffix is the deciding factor as to the thought expressed. Prior to the third grade, there were indications that the first graders were accelerating in their understanding of the use of the noun plural suffix by the fact that their mean scores were similar to the third graders' mean scores on all comprehension tasks. The behavior exhibited by the first and third graders on the comprehension tasks suggests that black children begin generalizing their understanding of noun plural suffix rules when they come to school; but noticeable changes in their ability to generalize these rules to new words begin to peak around third grade, at

which time they have grasped the meaning of this grammatical feature more fully when encountering it in new words.

These results coincide with Torrey's (1969) findings, which indicated that the second grade black children from Harlem were able to understand the noun plural suffix in a reading test with 85% accuracy. Koziol (1973), on the other hand, found that the white middle-income child was able to identify the noun plural suffix with .90 accuracy at first grade.

The preschool and kindergarten subjects' performances on the three comprehension tasks provide further insights into the receptive behavior of the black child in understanding the function of the noun plural suffix. The younger subjects did not perform as well as the third and fifth graders, but they did recognize the noun plural inflection at least 50% of the time in each comprehension task. Examination of the preschool and kindergarten subjects' responses to singular response items indicated that they tended to interpret singular response items as plural response items, a finding which is shown by the statistical significance reached on /nom/ and /baʃ/ in Task B. When the singular and plural response items were introduced in Task C, which required the subject to perceive the differences in two sentences, to perceive the difference in two pictures and to match the appropriate

picture to the appropriate sentence, the preschool and kindergarten subjects' performances on identifying singular and plural response items were poorer than on the other two tasks. Overall, the results in this section suggest that recognition of the noun plural suffix in new words is still guesswork to a degree for most preschoolers and kindergarteners.

Production Rules for the Noun Plural Inflection

The findings of this study substantiated what has been found in previous studies on the developmental stages of the plural inflection. One very significant result, verified by other researchers, was the influence of normal maturation upon the increased usage of the plural inflection. Koziol (1973) found that white upper-middle income preschool subjects did not perform as well as white third grade upper-middle class subjects in pluralizing real and nonsense nouns. First graders performed significantly better than preschoolers on "slightly less than half" of the noun plural inflectional items from the Berko Test (Berko, 1958). Black subjects in Ramer and Rees' study (1973) tended to use the plural suffix more frequently as grade level increased. Torrey (1969) found that second grade black children pronounced the plural inflection on oral reading pre and post tests 85% of the time on both tasks. In the present study, the effect of grade

on each task was significant, a finding which supports the fact that children have not mastered the morphological rules for the noun plural inflection when they enter school. As they mature and encounter new situations in which the noun plural inflection is needed, their ability to use the noun plural inflection increases.

The linguistic behavior in the application of the noun plural inflection, when the noun denoted plurality, was the same for preschool, kindergarten and first grade subjects in this study as in other studies (Berko, 1958; Koziol, 1973; Ramer & Rees, 1973), whereby words were repeated in the singular form. There was only one test item, /hiyf/, in which the subjects substituted the correct plural allomorph with /-ɪz/, instead of repeating the singular form of the base word. Anisfield and Tucker (1967) indicated that their kindergarten subjects tended to attach a numerical marker to the singular form of nonsense words as a substitute for the noun plural inflectional forms when the noun plural form an adult would use was unknown to the child. From all information obtained prior to this study (Berko, 1958; Anisfield & Tucker, 1967; Koziol, 1973; Ramer & Rees, 1973) and the present results, it appears that when children are uncertain about the appropriate noun plural allomorph to attach to a regular noun, they tend not to use another noun plural allomorph in its place, e.g., /tor/-/torɪz/,

but will leave the noun in its singular form, sometimes attaching numbers to the singular form, to denote more than one. The extent of this observed behavior varies depending upon the maturation of the child as well as the familiarity of the word to the child.

The preschool, kindergarten and first grade subjects in the present study had more difficulty forming the plural of nonsense words as opposed forming the plural of real words. When asked to pluralize a noun which they had voluntarily given, the plural allomorph was attached to that noun more often than to a noun with which the children were not familiar (nonsense nouns). Koziol (1973) found similar results with his kindergarten subjects who were not able to produce the correct plural forms for any of the nonsense words but gave a correct response for nearly every real word presented. Berko (1958) presented to her subjects only one real word, glasses, to which 91% of the preschool and first graders formed the plural correctly, with percentages of correct responses to the nonsense words gradually decreasing to scores below 40%. Ramer and Rees (1973) used the Berko Test items on Black American children and reported that the kindergarten and first grade subjects used the plural inflection to form the plural of the real word glass; however, the preschoolers did not respond with a plural marker to the word at all. The response to that

particular test item from the Berko study was statistically significant in this study, with the preschool (27.8%), kindergarten (22.2%), first grade (27.8%) and third grade (20.4%) subjects repeating the word in the singular form instead of the plural form more often than the fifth graders (1.9%). Both samples of preschool through first grade subjects from Ramer and Rees' (1973) and the present study received mean percentage scores below 40% in the use of the plural inflection on nonsense words.

By fifth grade, black children have mastered the noun plural inflection rules, generalizing the rule to new words and familiar words consistently, a finding which was reflected by their significant mean scores on production tasks A and C. Third graders also showed a significant application of pluralizing familiar and nonsense words by the percentage of correct responses in Task C on real (99%) and nonsense (90%) words. The third grade subjects were not as consistent in their application of the noun plural suffix to nonsense words as fifth graders, a finding which is evidenced by the nonsignificance between their mean score and the mean scores of the lower grade subjects. From the manner in which Task C was structured, i.e., real words were presented first and nonsense words, second, it may have been easier for third graders to generalize pluralization rules used with

familiar words to unfamiliar words. Compared to other controlled studies (Koziol, 1973; Ramer & Rees, 1973) which have interviewed school-aged children to determine the date of mastery of the noun plural inflection, black children are not like white middle-income children, i.e., white middle-income children in the Koziol (1973) study reached the criterion level of mastery on real and nonsense words at third grade. However, a few of the white third grade subjects still had not mastered all the noun plural suffix rules for real and nonsense words.

The presence of a quantifier before a real or nonsense word can determine the application of the noun plural suffix rule (Menyuk, 1970; Bailey, 1968; Baratz, 1969), a finding which was also reflected in the present study. When a quantifier preceded the noun, the lower elementary subjects--preschool, kindergarten, and first grade--responded significantly differently from fifth graders, in that younger children did not add the noun plural suffix to the noun. The type of quantifier preceding the noun made little difference in the use of the plural marker, as evidenced by the small percentage difference of correct responses for the quantifiers "two . . ." and "lot of . . ." before the same noun. The type of quantifier used before a nonsense word and a real word did not seem to affect the subject's use of the plural marker as did the criterion of familiarity with the noun.

When there was no quantifier preceding the noun, subjects across grade levels attached the plural suffix to the noun. In Task C, all children were asked to name the animated figures in the drawings. To the question, "What would you call these little things?," the children replied, kids, children, peoples, animals, toys, monsters, mans, mens, puppets. Their responses followed the grammatical rule of adding a plural suffix to the noun, even when the noun was irregular. On the imitation task (B), in which quantifiers were eliminated, most subjects performed well, as evidenced by significant differences only in mean scores between grades at each end of the range tested, i.e., fifth graders performed significantly better than preschoolers and third graders performed significantly better than preschoolers but kindergarten, first, third and fifth grade subjects performed similarly.

The order of appearance of the noun plural allomorphs /-s/, /-z/, and /-ɪz/ in the black child's speech in this study follows the pattern of acquisition discussed by McNeill (1970) and Berko (1958), in that preschool, kindergarten and first grade children responded with the plural inflection to words that required a /-s/ or /-z/ allomorph more frequently than to those words that required an /-ɪz/ allomorph.

Since the linguistic response given in words requiring the /-s/ and /-z/ noun plural allomorphs were

pooled, it was difficult to define the developmental stages for these two allomorphs. However, comparing the subjects' responses in the present study with the responses of subjects in other studies, it appears that the /-s/ and /-z/ allomorphs were more advanced in development than the /-ɪz/ noun plural allomorph but at the same level of development with respect to each other. On the Berko Test in Task A, none of the subjects across grades showed differences on any of the words except words ending in fricatives and affricates, a finding which indicates that subjects in all grades were performing equally or nearly the same on word final consonants requiring a /-s/ or /-z/ noun plural allomorph. Ramer and Rees (1973), who used the same task, found that the /-ɪz/ noun plural allomorph was not attached to the appropriate root words as often as the /-s/ and /-z/ noun plural allomorphs; but no comparison was made of the frequency with which the /-s/ and /-z/ allomorphs were appropriately applied, a finding which may have been attributed to the fact that all allomorphs were not distributed equally in the task. Anisfield and Tucker (1967), who controlled the distribution of the noun plural allomorphs through selection of word final endings, found that the white kindergarteners used the productive rules for /-s/ and /-z/ more often than those for /-ɪz/ but made no definite statements about the differences in development of the /-z/ and /-s/.

Koziol (1973) investigated the extent of the noun plural productive rules mastered by school-aged children and found that first graders had reached a .90 criterion level of proficiency for all word final endings that required the /-s/ or /-z/ noun plural allomorph, except for the /-st, -sk/ cluster. The kindergarteners in the Koziol (1973) study showed no significant differences in their performance on word endings which required the /-s/ or /-z/ allomorph. Former research (Ramer & Rees, 1973; Koziol, 1973; Anisfield & Tucker, 1967) suggested that investigators have not found significant differences in the use of productive rules for the noun plural allomorphs /-s/ and /-z/ in school-aged children. Significant differences between the two noun plural allomorphs may be found during the period in which naturalistic studies traditionally have been done.

Comprehension and Production

Results from this study support the thesis that comprehension of the noun plural suffix precedes production of the noun plural suffix. A short time span exists between when noun plural suffix rules are understood in new linguistic situations and when noun plural suffix rules are produced in new linguistic situations. Around third grade the subjects seem to have learned the noun plural suffix rules well enough to identify consistently plural response items from singular response items, a

finding which is exemplified by their significant mean scores in comparison to preschool and kindergarten subjects on all comprehension tasks. By fifth grade, the subjects were consistently applying noun plural suffix rules when they pluralized unfamiliar singular stimulus items. These results suggest an approximate time span of two years between when black children fully comprehend the meaning of the noun plural suffix and when they use the noun plural suffix in new words (Ervin, 1964).

Performance by the subjects on the imitation, comprehension and production tasks varied, as hypothesized and proven by Fraser et al. (1963). Imitation, hypothesized to be the least difficult of the three, was shown to be just that from the results of this study. The subjects' performances on the imitation task (Production Task B) showed that all subjects perceived a difference in singular and plural response items (sentence pairs) and could produce the differences when the sentences were repeated, as evidenced by the large percentage of correct responses across grade level, in comparison to other production tasks. Stephan (1976) and Baratz (1969) found that the noun plural suffix was the grammatical feature black preschool children repeated correctly more frequently in an imitation task than any other Standard English grammatical feature, e.g., possessive, third person singular. Comparing the performance of preschoolers to third and

fifth graders on other production tasks (A and C) suggests that the retrieval of stored semantic and/or phonological information enabling the preschoolers to repeat the nonsensical singular response and plural response noun plural suffix items correctly was not as efficient as the retrieval system of the third and fifth graders (Norman, 1969; Ervin-Tripp, 1973).

The comprehension tasks involved more complex operations for the subjects to execute than was necessary for the imitation task. To complete these tasks, there had to be an integration of information from two sensory inputs, visual and auditory. Interpreting the auditory input required basically the same processes as imitation-attention, extraction of important features from incoming sensory stimuli for analysis, primary storage and organization of the output. Visual images, which are initially retained for a short time in the visual store, are coded into an auditory form, such as speech/motor or acoustic factors for increased efficiency and rehearsal before it is entered into primary memory (Norman, 1969). Generative rules are also present in the memory bank for the semantic and phonological interpretation of speech received and speech generated. As age increases, these processes become more efficient, thereby producing changes in acquisition. Ervin-Tripp (1973) suggested three reasons why age changes in acquisition will occur:

Input conditions are quite different for adults and children, because the external semantic reference of discourse may be reduced with age, and the linguistic complexity of input tends to be greater with age. Knowledge and availability of memory heuristics increases with age, making it easier to retain longer input and discover meanings. (p. 234)

This quote is applicable to the linguistic behavior exhibited by the older children, fifth graders, who were able to perform significantly better than all the younger children on all the tasks. Fifth graders were nearing the age range in which language acquisition is thought to be coming to an end (Labov, 1970). Rules of syntax that are learned during this time are usually those that are exceptions to general rules (Hopper & Naremore, 1973).

Educational Implications and Suggestions for Further Research

The results of this study can be of benefit to professionals, specifically the educator and the speech and language pathologist, who need a working knowledge of the course of language development in normal school-aged black children.

The educator needs adequate preparation about the linguistic characteristics and cultural values of the Black American child so that he can meet the black child with genuine respect, assess objectively both the child's strengths and weaknesses, and then create a learning atmosphere in which the black child can find repeated,

steady success during the primary years of school (Horn, 1970; Sommerville, 1975); thereby discouraging the development of a potential dropout.

Reading instruction, which is an integral part of the elementary curriculum, is directly affected by the classroom teacher's knowledge of the development of certain grammatical features because he must be able to diagnose dialectal interference in reading.

One grammatical feature which may be a factor in dialectal interference in reading is the noun plural suffix, which has shown a marked increase in usage among basal reading material used in first and second grade (Brittain, 1970). The number of inflectional forms present in basal reading material exhibited a significant relationship between inflectional performance and reading achievement at the first and second grade level, such that Brittain (1970) cautioned that progress in reading may be hampered if the development of inflections still was not mastered by the end of grade two. Brittain (1970) noted the importance of knowing the language development patterns of children prior to the teaching of reading in the statement below:

If this relatively minor component of the English grammatical system contributes significantly to the reading achievement of first and second grade children, then certainly the careful appraisal of children's linguistic status should be prerequisite to the initiation of formal instruction in reading.
(p. 47)

Several alternatives to the problem of dialectal interference have been suggested, i.e., dialect readers, Standard English taught prior to reading, neutralization of dialect differences, use of language experience approach, and reading traditional textbooks with a dialect. Conclusive research indicating which method has the most facilitating effect on reading is not available at the present time due to limited research in the area (Sommerville, 1975). The classroom teacher must then be innovative in his approaches to reading, relying on no particular method; however, the teacher must be familiar with the dialectal pattern of the black children in his classroom before attempting any of the alternatives.

In the area of rehabilitation, the speech and language pathologist must also be familiar with the black dialect linguistic rule system and the Standard English grammatical and phonological features to properly diagnose and treat black children who are speech and language disordered. The black dialect shares many grammatical and phonological features with the Standard English rule system; however, there are a few grammatical and phonological features that are mutually exclusive to black dialect and must be considered in the evaluation process before a black child can be diagnosed as having a communication disorder (Seymour & Seymour, 1978). If the speech and language pathologist is totally unaware of black dialect

features, a misdiagnosis could result--true language or auditory discrimination problems may be overlooked or dialect--appropriate speech patterns in the black child may become therapeutic goals. The speech and language pathologist will also encounter features in the black child's speech which is characteristic of his speech community and may never change to the Standard English complement until the need arises, e.g., third person copula.

Most available diagnostic tests have been normed in such a manner that they cannot detect differences, only deficits (Bartlett et al., 1973). For this reason, the Speech and language pathologist must be aware of the "uniqueness" of black children and their linguistic rule system and apply these findings in a diagnostic setting.

The most direct method in alleviating the problem is more research in the area of language development, specifically, research on the development of those grammatical features which differ from the standard dialect. For example the present study will indicate to the educator and speech and language pathologist that (a) the noun plural inflection is not acquired by black children at the same rate as in white children but the order is preserved; (b) the young school-aged children in preschool, kindergarten and first grade may be able to perform well on the noun plural suffix in an imitation

task but not do as well on a comprehension or production task testing usage of the plural marker in new words;

(c) a black school-aged child who does not generalize the noun plural suffix to new words by fourth or fifth grade may be an indication of more serious problems.

More in-depth studies about the language development of the white, black, Spanish and Indian child on all socioeconomic levels will enable the educator and the speech and language pathologist to be more effective in their professional setting; however, their role and responsibility in accepting and applying such information is another question.

A child's language is the most precious asset he brings to school. We must learn to use it as a starting point so that the end product will be something we can be proud of.

APPENDICES

APPENDIX A

PRODUCTION TASKS WITH RESPECTIVE TEST ITEMS

APPENDIX A

PRODUCTION TASKS WITH RESPECTIVE TEST ITEMS

PRODUCTION TASK A

Directions: I need your help naming some funny-looking animals. I will show you a picture and name the animal in that picture. Then you tell me the name of the picture with two animals in it. Let's try one.

1. Plural. This is a wug /wʌg/.
Now there is another one.
There are two of them. There are two _____.

Good. Let's try the others.

2. Plural. This is a gutch /gʌtʃ/.
Now there is another one.
There are two of them. There are two _____.
3. Plural. This is a kazh /kædʒ/.
Now there is another one.
There are two of them. There are two _____.
4. Plural. This is a tor /tɔr/.
Now there is another one.
There are two of them. There are two _____.
5. Plural. This is a lun /lʌn/.
Now there is another one.
There are two of them. There are two _____.
6. Plural. This is a niz /nɪz/.
Now there is another one.
There are two of them. There are two _____.
7. Plural. This is a cra /krɑ/.
Now there is another one.
There are two of them. There are two _____.
8. Plural. This is a tass /tæs/.
Now there is another one.
There are two of them. There are two _____.

9. Plural. This is a heaf /hiyf/.
Now there is another one.
There are two of them. There are two _____.
10. This is a glass /glæs/.
Now there is another one.
There are two of them. There are two _____.

PRODUCTION TASK B

Directions: I am going to say something. Now listen:
 "The /mug/ fell off the root." Now you say that. (Pause)
 Now say: "The /mugz/ fell off the roof." (Pause) Now
 say: "The /fiks/ can jump high." (Pause) "The /fiks/ can
 jump high." (Pause) Good. You have done well. Let's
 try some more.

Test Stimuli:

1. The /trebz/ played in the rain.
 The /treb/ played in the rain.
2. Birds like the taste of the /læt /.
 Birds like the taste of the /læts /.
3. The /nugz/ talked to the bear.
 The /nug/ talked to the bear.
4. Pooh Bear covered the /lez / with mustard.
 Pooh Bear covered the /lezzz/ with mustard.
5. Lightning scared the /taps/ under the bed.
 Lightning scared the /tap/ under the bed.
6. The cat likes to jump over the /bæz /.
 The cat likes to jump over the /bæzzz /.
7. Look at the /mɪb/ on the ladder.
 Look at the /mɪbz/ on the ladder.
8. The /rutʃɪz/ lost a leaf.
 The /rutʃ/ lost a leaf.
9. The /wɪb/ turned the truck over on its side.
 The /wɪbz/ turned the truck over on its side.

PRODUCTION TASK C

Directions: (Interviewer) "I have some pictures here that I want you to see. They're kind of funny. Would you look at them and tell me what is happening?"

(Subject response)

(Interviewer) "What are those things (at the birthday party), (on the playground)? What would you call them if you had to name them?"

(Subject response)

(Interviewer) "Let's take them one at a time. What would you name this one?" (Subject response)

(Interviewer) "Suppose you had two of those, what would you call them? Two (Subject's response). Now let's suppose you had a lot of them. What would you call them? A lot of (Subject's response)."

Test Items:

Nonsense Nouns

1. /bluk/
2. /anto/
3. /ɪʃ/
4. /swɪdʒ/
5. /tag/

APPENDIX B

RECOGNITION TASKS WITH RESPECTIVE TEST ITEMS

APPENDIX B

RECOGNITION TASKS WITH RESPECTIVE TEST ITEMS

RECOGNITION TASK A

Directions: Look at the picture in front of you. This is /tʃɪb/. Now look at all three pictures carefully. Show me /tʃɪbz/.

Practice Items:

1. This is /fep/. Show me /feps/.
 2. This is /gɪdʒ/. Show me /gɪdʒɪz/.
- Very good. Now let's try the others.
1. This is /ruk/. Show me /ruks/.
 2. This is /ʃæd/. Show me /ʃædz/.
 3. This is /waɪs/. Show me /waɪsɪz/.
 4. This is /mɒk/. Show me /mɒks/.
 5. This is /næp/. Show me /næps/.
 6. This is /tæs/. Show me /tæsɪz/.
 7. This is /fɪg/. Show me /fɪgz/.
 8. This is /pedʒ/. Show me /pedʒɪz/.
 9. This is /zel/. Show me /zelz/.

RECOGNITION TASK B

Directions: I will show you two pictures. The two pictures are not alike. I will name one of the pictures for you. You point to the picture I name. Let's practice a few.

Practice Items:

1. Show me /bisiz/.
2. Show me /kefs/.
3. Show me /tegz/.
4. Show me /miv/.

Very good. Let's try a few more.

Test Stimuli:

1. Show me /rik/.
2. Show me /stubz/.
3. Show me /hukz/.
4. Show me /snagz/.
5. Show me /baf/.
6. Show me /mitfiz/.
7. Show me /nom/.
8. Show me /kets/.
9. Show me /tasiz/.
10. Show me /kwats/.
11. Show me /nazziz/.
12. Show me /melz/.

1. Look at the /mɪbz/ on the ladder.
Look at the /mɪb/ on the ladder.
2. Birds like the taste of the /lætʃs/.
Birds like the taste of the /læt/.
3. The cat likes to jump over the /rætʃɪz/.
The cat likes to jump over the /rætʃ/.
4. The /nʌg/ talked to the bear.
The /nʌgz/ talked to the bear.
5. Pooh Bear covered the /lez/ with mustard.
Pooh Bear covered the /lezɪz/ with mustard.
6. The /treɪbz/ played in the rain.
The /treɪb/ played in the rain.
7. Lightning scared the /tæps/ under the bed.
Lightning scared the /tæp/ under the bed.
8. The strong /wɪb/ turned the truck over on its side.
The strong /wɪbz/ turned the truck over on its side.
9. The /rʊtʃɪz/ lost a leaf.
The /rʊtʃ/ lost a leaf.

APPENDIX C

SUBJECT RESPONSE FORM

APPENDIX C
SUBJECT RESPONSE FORM

Name: _____ Birthdate: _____
Grade: _____ Sex: _____
Condition: _____

Production Tasks

Task A (Recorded responses of the child)

1.	4.	7.	10.
2.	5.	8.	
3.	6.	9.	

Task B (Recorded responses of the child)

1.	4.	7.
2.	5.	8.
3.	6.	9.

Task C (Recorded real and nonsense words)

<u>Real</u>		<u>Nonsense</u>	
1.	4.	1.	4.
2.	5.	2.	5.
3.		3.	

Recognition Tasks

Task A (Record the number of the picture pointed to)

1.	4.	7.	10.
2.	5.	8.	11.
3.	6.	9.	12.

Task B (Record picture pointed to as incorrect or correct)

1.	7.	13.
2.	8.	14.
3.	9.	15.
4.	10.	16.
5.	11.	
6.	12.	

Task C (Record picture pointed to as incorrect or correct)

- | | | |
|----|----|----|
| 1. | 4. | 7. |
| 2. | 5. | 8. |
| 3. | 6. | 9. |

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