

To the Graduate Council:

I am submitting herewith a dissertation written by Nancy A. Bibler entitled "An Investigation of the Effect of Dialect Variation on Second Grade Students' Perception of Phoneme-Grapheme Relationships: A Psycholinguistic Perspective." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Education, with a major in Curriculum and Instruction.

Lester N. Knight

Lester N. Knight, Major Professor

We have read this dissertation
and recommend its acceptance:

Bethany K. Thomas

Jeffrey W. Alexander

Thomas W. Turner

Accepted for the Council:

L. Evans

Vice Chancellor
Graduate Studies and Research

AN INVESTIGATION OF THE EFFECT OF DIALECT VARIATION ON
SECOND GRADE STUDENTS' PERCEPTION OF PHONEME-GRAPHEME
RELATIONSHIPS: A PSYCHOLINGUISTIC PERSPECTIVE

A Dissertation
Presented for the
Doctor of Education
Degree
The University of Tennessee, Knoxville

Nancy A. Bibler

August 1982

3063187

ACKNOWLEDGMENTS

The author wishes to extend special thanks to Dr. Lester Knight, her major professor, and to Dr. Bethany Dumas, Dr. J. Estill Alexander, and Dr. Thomas Turner for their part in shaping and sharpening the quality of this dissertation.

Thanks are due also to the students, teachers, and administrators of the Chattanooga Public Schools whose cooperation made this project possible.

Dr. Lloyd Davis of The University of Tennessee at Chattanooga provided invaluable help in communicating with the computer, and his assistance is gratefully acknowledged.

In many respects this has been a family project, and the author wishes to express deepest thanks to her parents, Maury and Sara Fisher, who have always provided support and encouragement; to her children, Joe, Judy, and Andy, who cheerfully assumed extra responsibilities to give her time for study and research; and especially to her husband, Tom, who gave her the greatest gift of all—confidence in her own ability to see this project through to its completion.

ABSTRACT

The purpose of this research was to provide a way of looking at children's acquisition of phonics knowledge to help answer the question: Do children acquire their knowledge of phoneme-grapheme relationships intuitively rather than through direct instruction?

A test was given patterned after typical phonics exercises, with two subsections: one (subtest A) containing items using stimulus words which are pronounced the same by virtually all speakers of American English, and the other (subtest B) containing items using stimulus words which have varied pronunciations in the regional and social dialects of Inland Southern speech. Each item consisted of a stimulus picture and three answer choices. On subtest B, one answer choice reflected American Standard speech forms, one reflected Inland Southern speech forms, and one served as a distractor response.

The test was given to 202 second grade students in Chattanooga, Tennessee, an area characterized by Inland Southern speech patterns. The group consisted of approximately equal numbers of Blacks and whites, males and females, from urban and suburban schools.

The average mean on subtest A (18.46) was significantly higher ($p < .001$) than the average mean on subtest B (12.16). On subtest B, when an unexpected response was selected, the Inland Southern response (average mean 7.22) was ten times more likely to be chosen than the distractor response (average mean .68). This difference was significant at $p < .001$ level.

Analysis of individual test items on subtest B indicated that vowel items were more likely to elicit the Inland Southern response than were the consonant items. Answers based on Inland Southern speech were chosen most often by students who were Black, reading below grade level, and attending a Title I school. For several vowel items, however, between 50% and 90% of all students in the study chose the Inland Southern response.

The results indicated that these children are as knowledgeable about phoneme-grapheme correspondences of their own speech as they are those of American Standard, and will make choices based on their own language patterns when dialect conflicts appear in phonics exercises. This knowledge was probably learned intuitively given current phonics instructional practices which stress only American Standard speech forms. Since reading is the most likely indirect source of phoneme-grapheme information, it may be that reading of connected text is the most effective way of improving phonics skill.

TABLE OF CONTENTS

CHAPTER	PAGE
I. PURPOSE AND ORGANIZATION	1
Introduction	1
Statement of the Problem	3
Purpose of the Study	6
Procedures	7
Definition of Terms	9
Phonics	9
Phoneme-grapheme correspondence	10
Phonics generalizations	10
Dialect	10
Bidialectal	10
American Standard dialect	10
Inland Northern speech	11
Southern English	11
Inland Southern speech	12
Regional standard speech	12
Nonstandard speech	12
Conforming feature	12
Nonconforming feature	13
Miscue	13
Unexpected response	13
Assumptions and Limitations	13
Assumptions	13
Limitations	14
Organization	14
II. LITERATURE REVIEW	16
Language and Learning to Read	17
Oral language and reading	17
Language acquisition and learning to read	19
Nonstandard speech and reading	23
Phonological Distinctions between Southern English and American Standard	28
Initial consonants	31
Final consonants	32
Vowels	33
The Importance of Phonics in Learning to Read	35
Testing for Mastery of Phonics Knowledge	39
III. METHODS AND PROCEDURES	41

CHAPTER

PAGE

Identification of Nonconforming and Conforming	
Phonics Elements	42
Development of the Test Instrument	43
Administration of the Test	47
Analysis of the Data	48
IV. PRESENTATION OF RESULTS	50
Hypothesis One	51
Hypothesis Two	52
Summary	53
V. SUMMARY, DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS . . .	55
Summary	55
Purpose	55
Procedures	57
Discussion of Findings	58
Discussion of Related Data	61
Variation in responses elicited by vowel and consonant items	61
Effects of the variables: sex, race, reading level, Title I status	62
Effect of sex on /str/: /skr/ feature	65
Conclusions	66
Recommendations	66
For specialists in reading	66
For further research	68
LIST OF REFERENCES	70
APPENDICES	76
A. FEATURES TESTED ON SUBTESTS A AND B	77
B. TEST B ITEMS: TYPE OF FEATURE TESTED, INLAND SOUTHERN-BASED ANSWER, AND PERCENTAGE OF STUDENTS CHOOSING EACH ALTERNATIVE	78
C. PHONICS TEST AS ADMINISTERED TO STUDENTS WITH ADDITION OF PICTURE WORD (IN PARENTHESES) AND AMERICAN STANDARD ANSWER (MARKED WITH ASTERISK)	82
VITA	90

CHAPTER I

PURPOSE AND ORGANIZATION

I. INTRODUCTION

Psycholinguistic research over the past 20 years has provided growing evidence that reading can best be understood as part of the total human language processing system. Several landmark studies of children's language development have demonstrated the existence of integral relationships among the skills of reading, listening, speaking, and writing (Loban, 1976; O'Donnell, Griffin, and Norris, 1967; Ruddell, 1965; Strickland, 1962). Psycholinguistic researchers and theoreticians have identified significant similarities between language acquisition and learning to read (Smith, 1978; Wardhaugh, 1976). Other psycholinguists have focused on the oral language base of the individual learner and have found significant links between dialect and reading (Goodman, 1978; Laffey and Shuy, 1973).

A parallel movement in reading over the past two decades has been the rediscovery of and increasing emphasis on phonics, not just as a word recognition tool for the beginning reader, but as an instructional method in itself for the teaching of reading. Though by definition "phonics" implies a strong link between oral language and the printed symbols which comprise the reading medium, phonics instruction historically has been based on principles and assumptions that sometimes

run counter to research findings from the fields of descriptive linguistics and psycholinguistics (Smith, 1978).

One of the most prominent current models of the reading process (Goodman, 1978) proposes that the act of reading is accomplished through the interaction of three "cueing systems" based directly on the three basic components of language identified by linguists. These cueing systems are (1) the grapho-phonetic system (in an alphabetic language), (2) the syntactic system, and (3) the semantic system. This theoretical model predicts that a reader's efficiency in obtaining meaning from print will depend on how effectively each system is used and on the proportion of use the reader makes of each system. It is emphasized by proponents of the model that reading takes place only through the simultaneous interaction of the three systems; the reading act cannot be broken down into separate functions for isolated drill and still be considered reading—proficiency with each cueing system develops only through practice in reading meaningful content. Awareness of phoneme-grapheme relationships (i.e., phonics) comes to the reader as a by-product of the learning to read process (and then becomes a stimulus to further learning), not as a component that must be mastered before reading can begin (Smith, 1978).

Other reading researchers and theorists specializing in phonics have viewed knowledge of phoneme-grapheme relationships as a requisite skill for learning to read, and most reading programs today begin formal instruction in letter-sound associations at the "pre-reading" level.

II. STATEMENT OF THE PROBLEM

An assumption made by teachers, researchers, and materials developers alike in the field of phonics has been that learning the phoneme-grapheme correspondences derived from the American Standard dialect (see definition, p. 10) is the appropriate form of phonics instruction for all beginning readers. In view of the wide phonological variations in dialects of American English, this assumption may not be altogether justified.

In using phonics as a word recognition tool, it must be assumed that the phonological patterns of the reader's oral language are crucial, since the reader must learn to match the conventional written symbols (letters) with the particular phonological elements of the reader's speech in order to convert the written symbols to recognizable oral symbols. Linguists, however, tell us that each person's speech pattern is unique; thus, the particular system of letter-sound correspondences that must be learned for phonics to be useful will necessarily vary somewhat with each individual. Phonics instructional materials, nevertheless, are designed to teach a specific set of letter-sound associations, presumably derived from the speech patterns of the leading writers of the materials, which for sociological reasons would normally fall into the general classification of "standard speech." No such list of features can ever correspond precisely to anyone else's phonological pattern, but it is likely to be relatively close to the pattern of any speaker of American Standard dialect.

For the student who speaks a nonstandard dialect, or a regional standard (see definition, p. 12), such as Appalachian English, that differs substantially from American Standard, there are apt to be a significant number of instances in which the student's oral language does not match the printed symbols in the manner anticipated by the phonics program. Thus, if such a child responds to the questions asked in certain phonics exercises with an honest assessment of the way a given symbol "sounds" to him or her, the effort will be marked wrong by the teacher. Repeated experiences of this sort seem likely to confuse the learner's task of acquiring a useful set of phoneme-grapheme concepts, as well as to establish in the teacher's view the fact that this child does poorly at "phonics" and will, therefore, probably do poorly at reading.

The study reported here resulted from observations of remedial reading students living in eastern Tennessee, a geographic area with distinctive regional language patterns in both standard and nonstandard forms. A pattern of "miscues" became apparent as the students worked with traditional phonics instructional exercises. Instances in which the child's response differed from the expected response as designated by the teaching materials seemed to be traceable to phonological patterns within the child's oral speech, patterns which were often characteristic of the regional dialect of this East Tennessee locale. For example, a second grader, when asked to classify each object in a set of pictures according to whether the name of the object contained a "long a" (/e/) or "short a" (/æ/) sound, insisted that the bank in piggy bank contained

a "long a" sound. As the child repeated the word to himself, it was clear that he did, indeed, pronounce the word as /benk/ rather than bænk/. Typically, in Inland Southern English, the /æ/ of American Standard is pronounced /e/ before a nasal consonant, as in /kent/ for can't (Underwood, 1973, p. 20).

Another child, a third grader, working with initial consonant clusters, was given a spelling pattern and three beginning consonant combinations: $\begin{smallmatrix} \text{sm} \\ \text{sn} \\ \text{st} \end{smallmatrix}$ ell. His task was to combine the "ell" phonogram with one of the consonant clusters to form a word. His first response was /sn l/; he then switched to /stɛl/, then came back to /snɛl/. When asked to use the word in a sentence, he said, "There's a /snɛl/ in the water." Both /snɛl/ and /stɛl/ as phonological variations of snail and stale are consistent with a feature of Inland Southern speech in which the /e/ of American Standard becomes /ɛ/ when it occurs before /l/ (Underwood, 1973, pp. 15-16).

In a third instance, an 18-year-old remedial reading student, when asked to choose from a list of words those containing the same vowel sound as boy, selected destroy and point (both of which contain a diphthong as the student pronounced them) but not soil, which he pronounced /sɔɪl/.

The goal of phonics instruction as defined in various sources is to help the reader learn the regular patterns of associations which exist between the sounds of oral language and the printed symbols of written language. In each of the instances described above, the student had abstracted the sound in question from his own speech and applied it

correctly to the task at hand; but in so doing, each had produced an inappropriate response in terms of the instructional goals of the materials.

The psycholinguistic reading model, which assumes that learning appropriate phoneme-grapheme relationships is a natural part of the reading process, anticipates that children can make phonics generalizations appropriate to their own language without direct instruction. That young children are capable of recognizing relationships between sounds and print at an early age without formal instruction is indicated by studies of children's invented spellings (Read, 1975; Temple, Nathan, and Burris, 1982). It appears possible that children whose dialects produce phoneme-grapheme correspondences which are different from the American Standard dialect correspondences on which their instructional materials are based, may be learning these appropriate correspondences in spite of inappropriate instruction. It is clear that the children described above were making letter-sound associations based on their own dialect. Whether this behavior is typical of children from an Inland Southern speech area is the problem investigated by this research.

III. PURPOSE OF THE STUDY

It was the purpose of this study to extend the investigation of the phenomena cited above in a search for evidence which might clarify the following question: Do children acquire their knowledge of phoneme-grapheme relationships intuitively rather than through direct instruction? To guide the research, the following null hypotheses were formulated:

(1) On a phonics test containing two sets of items, one based on "conforming" features (see definition, p. 12) of Inland Southern speech and one based on "nonconforming" features, there will be no significant difference in scores on the two sets of items of students from an Inland Southern speech area;

(2) When unexpected responses are chosen to items on a phonics test based on nonconforming features of Inland Southern speech by students from an Inland Southern dialect area, there will be no significant difference between the number of Inland Southern-based alternatives chosen and the number of distractor responses chosen.

IV. PROCEDURES

The subjects of this study were 202 second grade students in the public schools of Chattanooga, Tennessee, an area characterized by Inland Southern speech patterns. Nine classrooms of children were selected from within the Chattanooga Public Schools based on willingness of teachers and principals to participate in the study. The sample contained approximately equal numbers of white and Black students, from both urban and suburban backgrounds. In the Chattanooga Public Schools a single basal reading textbook series is used throughout the system. This basal reader series, the Harper and Row Reading Basics Plus, constitutes the major resource for teaching reading in general and phonics in particular in the Chattanooga schools. Since the major elements of phonics instruction—single consonant sounds, consonant clusters, long and short vowel sounds and the most common vowel

combinations—are introduced and reinforced at the first grade level in the Harper and Row materials, the data for the study were collected from classes in the second half of the second grade to ensure that most of the students had completed the Grade One materials.

From a survey of published works on dialect geography, a list of the most common phonological variations from American Standard speech which occur in dialects of the Southeastern United States was compiled. Instructional materials used to teach phonics in the Chattanooga area, specifically the teachers' manuals of the Harper and Row first grade books, were surveyed to determine which of the phonological variations are specifically taught in their American Standard dialect form, and approximately what proportion of instructional time—as indicated by the number of exercises devoted to a particular phonics element—each feature receives. Ten such nonconforming features were selected and matched with a conforming feature—i.e., one which is commonly pronounced the same in Inland Southern English as in American Standard—which receives approximately the same amount of instructional time. Thus, the two sets of items for the test were obtained.

The testing instrument was devised by the investigator and met the following criteria: (1) It had an acceptable degree of reliability as indicated by the results of a pilot study in which the two sets of test items were given to a class of 31 Chattanooga second graders; (2) The content validity of the instrument had been judged acceptable by a panel of reading specialists who had affirmed that the test items were similar in format to exercises found in modern phonics instructional

materials and achievement tests (The items reflected an analytic approach to phonics since this was the predominant orientation of the instructional materials used in the Chattanooga schools.); (3) Each feature, conforming and nonconforming, was measured by two items; (4) the instrument could be administered as a group test.

The response to the test items designated as conforming or nonconforming were analyzed by category by means of a t test to determine whether there was a significant difference between the means of the two sets of scores. If there was not, the first hypothesis formulated as the basis of the study would be accepted. If, however, the scores on the set of nonconforming items were significantly lower than those on the conforming items, the responses to each of the nonconforming items would be analyzed by means of a t test to determine whether responses to the miscued item had tended to cluster around the dialect-based alternative choice for that item. By this means, the second hypothesis could be accepted or rejected.

V. DEFINITION OF TERMS

Phonics

This term refers to a set of phoneme-grapheme associations which a reader uses to derive the oral equivalent of an unfamiliar written symbol by matching the individual letters of a written word with sounds from the reader's own speech. Since no two people have exactly the same speech patterns, this set of associations will vary somewhat with each individual.

Phoneme-grapheme Correspondence

This is a term applied to the relationship which exists in English between the sounds recognized by native speakers as minimally distinctive and the letters which represent these sounds in written form. It is used synonymously here with letter-sound relationship.

Phonics Generalizations

These are principles which describe a characteristic pattern of correspondence between letters and sounds of English; e.g., "In a short word with a middle vowel and ending with e, usually the e is silent and the middle vowel is long" (Zintz, 1975, p. 248).

Dialect

This refers to a set of speech characteristics which are typical of the people of a particular social or ethnic group or geographic area. Categories can be very broad (e.g., "American English") or very narrow ("white male speech of the Lower East Side in New York City"). Every individual's speech can be classified in a variety of dialectal categories.

Bidialectal

This is a descriptive term applied to one who can use comfortably two distinctive dialects of the same language; frequently, this will include both a standard and a nonstandard variety.

American Standard Dialect

This is a hypothetical speech pattern which exemplifies the preferred pronunciation of American speech according to lexicographers

and authors of English, language arts, and reading instructional materials. It is hypothetical because no two authorities describe standard speech in exactly the same way and because there is such variety in pronunciation among individual speakers and within the speech pattern of any one individual that it is unlikely that anyone's speech actually falls into such a precise category. The term is used synonymously here with Inland Northern speech.

Inland Northern Speech

This is the dominant dialect of the north-central United States (Chicago). This speech variety is commonly used as the normative base for linguistic field studies (Kurath, 1973). The authority used in this study to identify Inland Northern speech forms is A Pronouncing Dictionary of American English by John Kenyon and Thomas Knott. (The authenticity of this work as a source of Inland Northern speech patterns has been attested to by Bethany Dumas of The University of Tennessee at Knoxville in personal correspondence dated November 25, 1981.)

Southern English

For the purposes of this study, this term designates a broad category of speech patterns which contains only those phonological features which are common to the major dialects of the Southeastern U.S. It includes forms common to black, white, rural, urban, standard, and nonstandard speech of the region.

Inland Southern Speech

This is a subclassification of Southern English which is used to distinguish the broadly uniform speech of West Virginia, Tennessee, Kentucky, inland Georgia, Alabama, Arkansas, and northeast Texas from the highly variable group of southern dialects known as Coastal Southern speech.

Regional Standard Speech

This term refers to the general speech patterns used by a majority of the educated, influential people of a particular geographic area. A regional standard speech may contain phonological and lexical variations from American Standard, but syntactical variations are much less frequent.

Nonstandard Speech

A set of speech patterns with distinct variations from American Standard English which is used by social groups of lesser prestige and influence is referred to here as nonstandard speech. This speech group usually shares the phonological features of the regional standard speech of the area, but in addition, contains syntactical variations from American Standard.

Conforming Feature

For the purpose of this study, this term refers to a phonological element which is pronounced the same in Inland Southern English as in American Standard.

Nonconforming Feature

For the purposes of this study, this term refers to a phonological element which is pronounced differently in Inland Southern English than it is in American Standard.

Miscue

This term describes an observed student response which differs from the expected response. It is usually applied to oral reading (e.g., a student looks at the word home and says "house").

Unexpected Response

For the purpose of this study, this term refers to an answer given by a student on a phonics exercise which does not reflect the most common pronunciation of a word according to Kenyon and Knott. It is used synonymously here with miscue.

VI. ASSUMPTIONS AND LIMITATIONS

Assumptions

(1) This study assumes, first of all, that the use of grapho-phonetic cues is a significant element in the process of learning to read written English.

(2) An additional assumption is that in a group of 200 children nonrandomly selected in Chattanooga, Tennessee, a majority of the children will exhibit phonological patterns characteristic of Inland Southern English.

(3) An assumption which applies specifically to the testing instrument of this study is that the student's choice of the dialect-based

response on the nonconforming features test will indicate that the child has independently formed a dialect-based phonics generalization relative to that feature.

Limitations

(1) Though it is likely that various social, psychological, and linguistic factors (e.g., socioeconomic status, I.Q., idiolectal language differences) would affect a student's performance on the test instrument of the study, it was the purpose of this investigation to look at general trends across a large population sample unified by age and a general dialectal similarity. If such a general survey indicated significantly different behavior on the two sets of test items, a rationale would be established for further research into the relationship between dialect-based phonics and a variety of independent variables.

(2) It is probable that some of the students of this study after two years in school will have become sufficiently "test-wise" so that in spite of the directions they are given during the test (i.e., to mark the word that contains the same sound as a stimulus word), they will unwittingly disregard this direction and will mark the answer they know to be considered the "correct" response. An effort has been made to minimize this effect by using stimulus words that most of the students will not be able to spell.

VII. ORGANIZATION

Chapter I has presented an introduction, statement of the problem, purpose of the study, the hypotheses which the study was designed to test,

and a brief outline of the procedures that were followed. Chapter II will review the literature related to dialect interference with reading, the role of phonics in the reading process, phonological variations between Inland Southern speech and American Standard, and testing for mastery of phonics knowledge. Chapter III will describe in detail the design of the study: the selection of the subjects, the selection of the phonological features that were tested, the format of the test questions, the check for validity and reliability of the test, the administration of the test to the subjects of the study, and the procedures for analyzing the test results. The analysis of the data will be discussed in Chapter IV, and Chapter V will include a summary, discussion of the findings and related data, conclusions, and recommendations.

CHAPTER II

LITERATURE REVIEW

Chapter II reviews the research and theory from four areas: (1) Language and Learning to Read, (2) Phonological Distinctions between Inland Southern English and American Standard English, (3) The Importance of Phonics in Learning to Read, and (4) Testing for Mastery of Phonics Knowledge. Because this study is concerned generally with the relationship between oral language and reading and specifically with the relationship between nonstandard dialect and reading, the chapter begins with a survey of the literature related to these two issues. Since the test instrument of this study is composed of items based on distinct phonological features of Inland Southern speech and American Standard speech, the second section of the chapter provides the survey of the literature on features of Inland Southern speech which was necessary to identify suitable items for the test. The significance of nonstandard speech in learning to read depends in part on the relative importance which a given instructional method attaches to the "decoding" aspect of the reading process; therefore, Section III looks at the role phonics plays in current instructional practices. Since the phonics test given for the purpose of this study required highly specific test items, it was necessary to devise an original test instrument. Section IV identifies the available information on the construction of phonics tests.

I. LANGUAGE AND LEARNING TO READ

In the 1960's, two topics of major significance in American education were being researched independently: the relationship between oral language and reading, and the academic achievement of children from America's racial and cultural minorities. The integration of the research findings from these two areas focused attention on a new issue: the possibility that the nonstandard speech patterns which often characterize social groups outside the cultural and economic mainstream of American life may in themselves be a substantial handicap in learning to read.

Oral Language and Reading

In 1962, Strickland (1962) published a landmark study of the oral language patterns of 575 elementary school children. In analyzing the syntactic patterns occurring in her language samples, Strickland found evidence that children used and understood a wide variety of syntactic patterns at grade one and that this variety increased through the elementary grades. (The basal readers used by the children at corresponding grade levels, however, exhibited a much more limited repertoire of sentence patterns.) Strickland also found positive correlations between the use of certain syntactic structures and the measured I.Q. of the children, the occupational status of their parents, and the parents' educational level. Ruddell (1966) extended the Strickland study to measure the effect on first graders' reading comprehension of a supplementary program which familiarized the

children with these syntactic structures—the use of "moveables" (adverbial elements describing time, place, manner, or cause which can fill various slots within utterances) and the use of subordinating structures within sentences. Reading comprehension of the experimental group improved when measured against achievement of a control group. Another study by Ruddell (1965), using data from the Strickland study, measured the variation on fourth graders' comprehension of materials utilizing either familiar syntactic patterns (occurring frequently in their oral language) or unfamiliar patterns (occurring infrequently in their oral language). He found that reading comprehension was significantly higher on materials containing high frequency patterns than it was with the low frequency patterns.

The most extensive analysis of the interrelationships among language skills is Loban's (1976) longitudinal study, begun in 1953, which followed the language development of 211 students from kindergarten through grade twelve. Loban found close correlations in achievement among all the language arts. Those students who were judged by their teachers to be the most effective language users showed more complexity in their use of oral language, more fluency, and wider vocabulary knowledge than their less proficient counterparts. They also scored consistently higher on tests of reading, listening, and written composition. Of particular interest, Loban noted, was the fact that those who were "superior in oral language in kindergarten and grade one before they learned to read and write [were] the very ones who [excelled] in reading and writing by the time they [were] in grade six." This

positive relationship between oral language and reading and writing was apparent for the duration of the study, from kindergarten through grade twelve.

Recent research (Read, 1975; Temple, Nathan, and Burris, 1982) investigating the beginnings of children's writing indicates that children who begin to write before entering school already have an awareness of letter-sound relationships. Such children appear to use a "letter name strategy" by which a letter is used "to spell a sound if the name of the letter closely resembles the sound" (Temple, et al., p. 61). When children need to represent sounds not easily matched with a letter name, they appear to depend upon a complex but logical system based on the articulatory similarities of sounds. Thus, /E/ is likely to be spelled with the letter A, for example, and /I/ with E (Temple, et al., p. 75). Such evidence suggests that many children may begin school with an acute perception (at a subconscious level) of the sound system of language, and with some understanding of its relationship to print.

Language Acquisition and Learning to Read

Studies showing close correlations between oral language proficiency and success with reading led to considerable speculation among psycholinguistic theorists on the implications of oral language acquisition for learning to read. Wardhaugh (1976) summarizes three theoretical positions on language acquisition: behavioristic, nativistic, and cognitive learning. The behaviorists, such as Skinner (1957), and Staats and Staats (1963), explain language acquisition in terms of

operant conditioning. Children learn language by hearing it used again and again and by imitating, through a process of "progressive approximation" (Skinner, p. 30) what they hear. This theoretical perspective results in a view of reading as a skill that can be broken down into specific parts, with each part learned best through isolated drill.

The nativist theorists, such as Lenneberg (1967) and McNeill (1970)—also described as "rationalists" by Dale (1976)—argue that the behaviorist position ignores the importance of the learner in the language acquisition process. It is generally accepted that using language is essentially a creative process—most utterances have never been spoken/heard before in exactly the same phonetic, syntactic, and semantic form. Learning to use language, therefore, consists of learning "an informal set of responses" that can be used in an infinite number of ways (Wardhaugh, p. 45). To accomplish this requires a unique "biological endowment of the [human] organism"—a hypothetical "language acquisition device" (LAD). The LAD enables the language learner to identify the particular structure (i.e., linguistic "rules") of the language being learned by analyzing and comparing the language that is heard with the innate knowledge held in the LAD of possible linguistic forms. This innate mechanism is believed by the nativists to apply very specifically to language learning alone. While language acquisition is certainly a type of cognition, the LAD is believed to direct only the learning of specific linguistic concepts; it does not affect other areas of cognitive development. Lenneberg insists that a biologically

determined stage exists when the ability to acquire language is at its peak (p. 142-182). Wanat (1971) suggests that if such an optimal stage exists for oral language development, there may be a similar stage of critical importance for learning to read. But generally, the positing of an LAD tends to exclude reading as a process similar to oral language. In differentiating between the two linguistic skills, Mattingly (1972) points out that "listening is easy and reading is hard" despite the fact that the acoustic signal supplies much less distinct cues than does the graphic signal. Since oral language learning appears to be an unconscious process whereas reading requires a degree of linguistic awareness based on one's prior acquisition of speech, Mattingly and Kavanagh (1972) conclude that reading is not a primary linguistic activity, but a secondary, "language-based skill, parasitical on spoken language, exploiting the reader's awareness of the contents of short-term memory" in which written words and sentences are stored in phonetic form.

A third group described by Wardhaugh as the "cognitive-learning" theorists, and roughly comparable to the "empiricists" discussed by Dale (1976), discounts the notion that language acquisition requires any special learning device that isn't already available in the human cognitive machinery. Learning oral language and learning to read are viewed as information-processing tasks, and as such both depend on certain cognitive processes such as the ability to store information in long-term and short-term memory, the ability to categorize and to generalize. Normal cognitive development enables learners to hypothesize

for themselves the generalizations needed to produce language appropriately. Proponents of the cognitive learning theories of language acquisition find support for their thesis in Piaget's stages of cognitive development (Wanat, p. 146). Stages of linguistic development depend on the child's level of cognitive development; the claim is made, in fact, that "linguistic universals [certain characteristics that appear in all languages; e.g., the presence of subjects, verbs, questions, negatives] exist precisely because thought structures are universal" (Wardhaugh, p. 50). Though similarities have been noted between the linguistic and cognitive development of young children (Dale, 1976), some problems are apparent in this theory, such as the discrepancy between the primary stage of oral language acquisition, from two to four years, when the child acquires informally a highly abstract set of linguistic generalizations, and the stage of formal operations, estimated in Piagetian theory to occur at ten to eleven years, which theoretically enables the child to deal with abstract mental operations. As Dale notes (p. 101), the issue is complicated and as yet unresolved. From the perspective of cognitive-learning theory, however, a variety of implications for reading are possible. Wanat (p. 146) notes, for example, that a child in the "centration" stage, a period in which the child lacks the ability to focus on more than one thing at a time, would have difficulty relating sounds and letters simultaneously—an essential task in using phonics.

Thus both research and theory since 1960 have supported the position that a close relationship exists between the oral language

of the learner and learning to read, though theorists do not agree on the exact nature of that relationship.

Nonstandard Speech and Reading

In the 1960's, the economically disadvantaged minority groups of America's inner cities became visible and vocal. Once attention was drawn to their economic plight, it soon followed that the educational institutions serving these populations came under close scrutiny. It was noted in numerous surveys that reading failure was highly correlated with membership in such groups (Laffey and Shuy, 1973; Shuy, 1969; Harber and Bryen, 1976; Baratz and Shuy, 1969). One researcher (Jensen, 1969) attributed this to genetic deficiency. A more respected viewpoint of this period attributed this relationship to language deficiencies among minorities (Bereiter and Englemann, 1966). The rationale for the language deficiency model was provided by the work of Basil Bernstein (1963) in England who had described differences in language style among middle and working class speakers, which he labeled "elaborated" and "restricted" speech. Bernstein, however, apparently did not intend to suggest that the restricted code was deficient—it is capable of expressing any idea that can be expressed in elaborated speech—only that it was less useful in a broad social context. The language deficiency model has been effectively refuted, not only by later work of Bernstein (1970) but by Labov (1969), by Stewart (1969), and by Wolfram and Fasold (1974), among others. Abrahams' (1970) book is a particularly impressive demonstration of the "hyper-verbal" behavior that characterizes the inner-city Black culture.

Linguistic research into the language patterns of various minority groups, in the meantime, was demonstrating that minority groups are frequently characterized by language patterns which differ from the standard language of their region in phonology, syntax, and vocabulary (Labov, 1969; McDavid, 1969; Wolfram and Fasold, 1974; Stewart, 1969). Once it was acknowledged that nonstandard speakers did possess a complete language system, researchers then began looking for possible sources of interference with reading that might be traced to dialect. Goodman (1969) was one of the earliest proponents of a theory of dialect interference in the reading process, based on his work with inner-city children in Detroit. In an article describing "Dialect Barriers to Comprehension," he cited specific instances of phonemic, grammatical, and vocabulary divergencies occurring in nonstandard speech which eliminate "the vital link between written and oral language [by which] standard speaking children learn to bring their power over the oral language to bear on comprehending written language" (p. 25). Goodman believed at that time that "the more divergence there is between the dialect of the learner and the dialect of learning, the more difficult will be the task of learning to read" (p. 14-15). An instructional program in phonics, attempting to teach children the relationships between letters and sounds "cannot be applicable to all dialects. . . . [Such instruction] may be not only inappropriate but confusing" (p. 21).

To deal with this newly discovered phenomenon, "dialect interference," four alternative proposals were prominently discussed and researched:

(1) that students be taught standard English before learning to read (Feigenbaum, 1971; Torrey, 1970); this bidialectal approach was

attempted in Chicago by Gladney (1972) and in Knox County, Tennessee, in an experimental Headstart program (Adler, 1979), with materials emphasizing differences between "school talk" and "everyday talk";

(2) that students be permitted to read back orally in their own dialect the standard language materials (Goodman, 1969); this method reflected a psycholinguistic orientation, a belief that meaning was primary and should be stressed over oral accuracy;

(3) that materials be written in the dialect patterns of the nonstandard speakers (Stewart, 1969; Leaverton, 1973); with this method it was usually advocated that conventional orthography be retained, but that syntax reflect the children's speech;

(4) that materials be developed based on similar patterns of standard and nonstandard speech, with minimal use of patterns that are different (Shuy, 1973); i.e., avoiding all use of "nonconforming" features.

The bidialectal approach has been attacked by Sledd (1969) as "cultural imperialism," and Shuy reports (1973) that linguists generally are "pessimistic" about the prospects for motivating six-year-olds to learn a school dialect. The use of dialect materials is strongly condemned by Black educators and parents (Fishbein, 1973) and would be virtually impossible to use effectively given the wide variety of nonstandard (and standard) dialects. The "neutralized" reading materials approach has been criticized by Wolfram and Fasold (1974) as being too limiting to be workable and by Baratz (1969) as being a "nonlinguistic" approach since it deliberately avoids making use of the beginning

reader's language competence. The method which seems to have the widest acceptance currently is Goodman's approach: encouraging children to use their own natural language patterns in oral reading.

In a review of 17 studies of Black dialect interference published between 1968 and 1974, Harber and Bryen (1976) conclude that such attempts have so far provided inconclusive results, due largely to what Harber and Bryen see as faulty research design. For instance, few of the studies distinguish between Black speakers and speakers of Black English. Many failed to check the subjects' comprehension of non-standard materials as well as standard, or to check the comprehension of standard speakers of the same passages. The most serious weakness, Harber and Bryen argue, was the failure of the studies to take into account the group who might be the most seriously affected by dialect interferences: the nonreaders. The studies do show a positive correlation between nonstandard speech and problems with beginning reading, the authors conclude, but a cause-effect relationship has proved difficult to establish.

In assessing the possible effects of nonstandard speech on the process of learning to read, linguists and reading researchers have examined each of the three components of language: phonology, syntax, and lexicon. Though several writers have examined ways in which non-standard phonology could interfere with the reading acquisition process (Goodman, 1969; Modiana, 1973; Venezky and Chapman, 1973), researchers generally have concluded that phonological interference is limited to difficulties in producing speech during oral reading that is acceptable to the teacher; nonstandard phonology does not seem to interfere with the

child's understanding of what has been read (Goodman, 1973; Lucas and Singer, 1976; Labov, 1969; Harber and Bryen, 1976; Melmed, 1974; Venezky and Chapman, 1973).

One of the rare studies dealing with phonology and dialect interference is that of Davis (1975) who conducted a study of vowel pronunciations among teachers and first grade students in a rural East Tennessee school system, and the degree of divergency of these vowel sounds from the pronunciations given in the basal reader series. Though a substantial amount of divergency was noted among teachers and students, there was no correlation between the amount of divergency and reading achievement among the individual children in the study. Davis points out, however, that though the teachers conformed somewhat more closely to the textbook standard than did the children, the direction of their divergency was the same as that of the children.

Though nonstandard syntax is considered by many researchers to be a more likely source of interference in reading than phonology (Stewart, 1969; Burke, 1974; Lucas and Singer, 1976), there appears to be a growing trend among theorists toward viewing the attitude of the teacher toward nonstandard speech, specifically the teacher's rejection of the student's language patterns, as a major factor involved in dialect interference (Goodman, 1973; Gladney, 1972; Melmed, 1973; Harber and Bryen, 1976; Burling, 1973). Several studies have provided evidence of the ability of nonstandard speakers to understand standard speech even though they cannot produce it (Johnson, 1974; Ramsey, 1972). These researchers have concluded that students should be allowed to read

standard English in the language style that is most comfortable for them with the teacher's attention directed chiefly at each child's ability to understand what has been read. Some reading specialists have suggested that only when an oral reading is translated into the reader's dialect can the teacher be sure that comprehension is taking place (Goodman, 1973). In addition to an acceptance of the reader's natural speech patterns, it is stressed that the teacher must also be knowledgeable about the areas of difference between the student's speech and standard forms, so that genuine errors, unrelated to dialect, can be detected and anticipated.

In summary, current research and theory lend support for the view that nonstandard dialect in itself is not a hindrance in learning to read, but that the attitude of the teacher toward nonstandard speech can be an inhibiting factor by causing nonstandard-speaking children to lose confidence in their own speech and their own capabilities for helping to link written language and meaning. Though similar research into the use of materials has not been attempted, it is the thesis of this study that a mismatch in materials can be similarly inhibiting by labeling responses wrong that are actually accurate reflections of the phoneme-grapheme correspondences of nonstandard speech. In addition, such materials can reinforce the teacher's negative attitude toward the learner's dialect.

II. PHONOLOGICAL DISTINCTIONS BETWEEN SOUTHERN ENGLISH AND AMERICAN STANDARD

Linguists identify language variation as a universal characteristic of all spoken languages. A language varies vertically—i.e., through

time—as well as horizontally—across time. Indeed, no two speakers of a common language share identical patterns of use. Variations occur in each of the linguistic systems: phonological, grammatical, and morphological. Individuals vary their language not only in these three components but also in style, according to the formality of the linguistic situation. Such individual variations in the use of language are commonly referred to as "idiolectal" differences. When such distinctions can be applied in a wider context to a group of language users, they become "dialectal" differences. Every variety of a spoken language, then, is a dialect, and every speaker belongs to a dialectal category of some description (and, in fact, to several).

Dialect differences develop when barriers exist which separate one group of language users from another. These barriers may be geographic, resulting in regional speech differences, or they may be social, resulting in speech differences which differentiate social classes. The differences between regional dialects tend to differ in character from the differences which occur between social dialects (Underwood, 1973). Regional dialects produce differences in vocabulary meanings and pronunciation; social dialects of a particular area, on the other hand, will probably be very similar in their phonology, while exhibiting significant differences in their syntax (Underwood, p. 5). [This is a particularly significant factor relating to this study because it implies fairly consistent phonological patterns across a socially stratified population.]

The scientific classification of regional language patterns in the U.S. began in the 1930's with the linguistic surveys of Hans Kurath which

led to the publication of the Linguistic Atlas of New England in the early 1940's. Since that time various regional studies have expanded the linguistic atlas surveys, although the progress has been slow. Fieldwork has been completed on the Linguistic Atlas of the Gulf States (Georgia, Florida, Alabama, Mississippi, Louisiana, Tennessee, Arkansas, and parts of Texas), but descriptive studies have not yet been published.

Kurath (1973) tentatively identified four "belts" of regional speech in the United States which he labeled North, North Midland, South Midland, and South. More recent linguistic researchers have preferred to divide Southern speech broadly into Coastal Southern and Inland Southern (Underwood, 1973). Coastal Southern includes Tidewater Virginia, the Carolinas, Georgia, Florida, Alabama, Mississippi, and Louisiana, and is marked by highly distinctive language areas. Inland Southern, on the other hand, describes a geographic area of remarkable linguistic homogeneity and extends from West Virginia through Kentucky, Tennessee, inland Georgia, Alabama, Arkansas, and northeast Texas. The dialectal distinctions in this area tend to be social in nature (differences between standard and nonstandard speech) and largely grammatical rather than phonological. Another broad linguistic distinction in this geographic area is between Black and white speech. Linguists do not agree on the origins of linguistic similarities and differences between Black and white Southern speakers (Underwood, p. 16). There do appear to be, however, a number of similar features in the speech patterns of Blacks and whites in the South (Labov, 1969, p. 34). For the purposes of this study, we have drawn from surveys of both Black

and white Southern speech, and unless indicated, the features described here have been identified in the speech of both groups.

Those linguistic features of relevance to this study, then, are the prominent phonological features which distinguish Inland Southern speech from the broad category of standard speech spoken in the United States which is referred to as American Standard English.

The distinctive phonological features of Inland Southern speech which are of particular concern for this study can be broadly classified into three areas: initial consonants, final consonants, and vowel sounds. We will begin with the smallest category and move to the largest.

Initial Consonants

Burling (1973) has noted that there appears to be less variability in the pronunciation of consonants than in vowels from one English dialect to another, and that initial consonants are more stable than consonants occurring in other positions. We will look first at three common beginning consonant forms of Inland Southern speech.

1. thr—The initial consonant cluster of such words as throw, throat, and through, /θr/, is often pronounced with the r deleted, resulting in the forms /θo/, /θot/, and /θu/ (Underwood, 1973; Wolfram and Christian, 1976). Wolfram and Christian observed this variation occurring only with the words throw and through, although the incidence of this pattern was "surprisingly high," and suggests that this is an example of word variability rather than sound variability. Burling (1973) notes the phenomenon in the Black English pronunciation of threw.

2. wh—The wh cluster, /hw/, at the beginning of such words as which and whale is commonly pronounced with the /h/ deleted, resulting in the pronunciations /wɪʃ/ and /wel/. (This writer recently observed a handwritten sign in a Chattanooga health spa that read "Please dry off before leaving the whirlpool area.") Wolfram and Fasold (1974) list this as a feature of speech in the northeast United States but do not mention it in connection with southeastern speech. Labov lists it as a characteristic of northern Black speech (Labov, 1969). McDavid mentions it as a nonstandard feature which is not socially diagnostic (Burling, 1973). Burling states that the contrast between /hw/ and /w/ appears to be disappearing throughout the United States. It is included here because it occurs frequently in the South as well as in other parts of the country, and yet the ability to distinguish between the sounds represented by wh and w at the beginning of words still is a common feature of phonics materials and tests.

3. th—The th digraph at the beginning of such words as this, that, and them is often pronounced /d/, producing such patterns as /dɪs/, /dæt/, and /dɪm/ (Underwood, 1973, p. 26; Wolfram and Christian, 1976, pp. 48-9; Adler, 1979, p. 46).

4. str—The /str/ cluster is often pronounced /skr/ in the speech of inner-city Black children (Labov, 1969, p. 46) producing such forms as /skræp/ for strap and /skrim/ for stream.

Final Consonants

1. th—The sound represented by th, /θ/, at the end of words such as both, with, and tooth, occurs frequently as /f/, producing the forms

/bof/, /wIf/, and /tuf/ (Wolfram and Christian, 1976, p. 49; Burling, 1973).

2. Reduction of final consonant clusters—Variations in final consonant patterns are typically a deletion of one consonant in a two- or three-consonant cluster. The final consonant will frequently be deleted if both consonants are voiced or if both are voiceless (Underwood, 1973, pp. 23-4; Wolfram and Christian, 1976, pp. 33-35; Labov, 1969, pp. 41-46; Adler, 1979, pp. 46-55).

- a. /st/ → /s/; e.g., ghost (/gost/) → /gos/
- b. /sk/ → /s/; e.g., desk (/dɛsk/) → /dɛs/
- c. /sp/ → /s/, e.g., wasp (/wasp/) → /was/
- d. /nd/ → /n/, e.g., wind (/wInd/) → /wIn/
- e. /ld/ → /l/; e.g., told (/told/) → /tol/

3. Reduction of final l (Underwood, 1973, p. 32; Burling, 1973, pp. 35-6).

- a. ball (/bɔl/) → /bɔ/
- b. help (hɛlp/) → /hɛp/

Vowels

There is much less variability in the graphic representation of consonant sounds than there is in that of vowel sounds. Consonant phonemes and graphemes generally match on a one-to-one basis: t stands for /t/, k stands for /k/, and b stands for /b/. Every vowel grapheme, however, can represent a minimum of three regularly patterned sounds in addition to a variety of other forms, some of which may occur only in a particular word; e.g., a commonly stands for /e/ in such patterns as

cave, made, rain; for /æ/ in such patterns as pat, map, stab; and for /ə/ in such words as across, woman, and sofa. It may also occur as /i/ in neat, /ɔ/ in all, and /o/ in boat, as well as in several other forms. It is not surprising that variation in vowel sounds constitutes the largest category of phonological variation among dialects.

1. Vowels before nasal consonants—In Inland Southern English, several variations from American Standard occur when the vowel is followed by /n/, /m/, or /ŋ/, or a nasal consonant and a consonant cluster (Burling, 1973, p. 33; Underwood, 1973, pp. 18-21; Wolfram and Christian, 1976, pp. 59-60).

- a. /æ/ → /e/; e.g., bank /bænk/ → /benk/; can't /kænt/ → /kent/
- b. /ɛ/ → /I/; e.g., pen /pɛn/ → /pIn/; many /mɛnI/ → /mInI/
- c. /I/ → /æ/; e.g., think /θInk/ → /θænk/; string /strɪŋ/ → /stræŋ/
- d. In two individual words, on and want, the vowels are realized as /o/ to give these forms: /on/ and /wont/.

2. Vowels before l—(Labov, 1969, pp. 41-46; Underwood, 1973, pp. 15-18).

- a. /e/ → /ɛ/; e.g., snail /sneɪl/ → /snɛl/
- b. /i/ → /I/; e.g., meal /mi:l/ → /mIl/
- c. /aw/ or /æw/ → /æ/; e.g., owl /awl/ → /æ l/
- d. /ɔi/ → /ɔ/; e.g., soil /soɪl/ → /sɔl/

3. Vowels before /š/ and /ž/ (Underwood, 1973, p. 21; not cited in Black English).

a. /ɪ/ → /i/; e.g., dish /dɪs/ → /diš/

b. /ɛ/ → /e/; e.g., treasure /trɛʒə/ → /trežə/

4. Vowels before g—(Underwood, 1973, p. 21; not cited in Black English).

a. /ɛ/ → /e/; e.g., egg /ɛg/ → /eg/

III. THE IMPORTANCE OF PHONICS IN LEARNING TO READ

Webster's Third New International Dictionary defines phonics as "a method of teaching beginners to read and pronounce words by learning the phonetic value of letters and letter groups." This is probably the definition most commonly accepted by laypersons and by many teachers. Professionals in the field of reading, however, generally do not view phonics as an instructional method in itself (Artley, 1977), but rather as one of the several ways by which a reader may attach meaning to a graphic symbol not instantly recognized; in this case, by using a knowledge of the regular phoneme-grapheme relationships that exist between oral and written English to translate a written pattern of letters into an oral pattern of sounds. Whatever definition is used, the importance one attaches to phonics skill in the act of learning to read depends upon how one defines the reading process.

The early linguists in this country, such as Bloomfield (1961) and Fries (1963), defined reading primarily in terms of the ability to translate written words into spoken ones. The reader, according to

this view, understands what is written through a process of saying the words, aloud or mentally, and "listening" to what is being read. This makes reading virtually synonymous with phonics (though Bloomfield and Fries strongly opposed traditional methods of teaching phonics). Later definitions of reading, and ones used predominantly today as the basis for reading instruction, view reading as a more complex process often consisting of several steps, such as word identification (through various means, including the use of phonics), putting words together to acquire literal meaning, interpreting and applying the meaning, and appreciating or evaluating the information or writing style of the passage. In this much wider definition of reading, it would appear that phonics plays a relatively minor role in the reading process. However, the space allotted to "phonics" in materials for teaching reading and in textbooks on reading instruction which use this definition of reading as an operational base suggests that the role of phonics is much more significant than the definition implies. In fact, Hittleman (1978) states that "any examination of instructional materials will reveal that more pages are devoted to phonics than to understanding." A college textbook, widely used in reading methods courses, has this to say about the significance of phonics skill (Heilman, 1972a):

Learning word analysis skills, including phonics, is an absolute necessity for learning to read. No child will learn to read, at what might be designated as fluent third grade level, unless he has mastered a number of insights into cracking the code. The term code cracking, as it is used extensively today, is simply a synonym for phonics.

This high regard for the "oral translation" skill which phonics provides is also evident in the introductory section of the teachers'

manual for the Harper and Row reading series where five behavioral objectives for the Harper and Row reading program are listed. The first objective states that "in order to demonstrate his ability to communicate orally the meaning conveyed by printed language, the student will read aloud material of an appropriate difficulty level with acceptable standard pronunciation and with reasonable fluency of expression" (Harper and Row, 1976) (underlining that of this writer).

For many professionals, then, it seems that children's ability to read will be judged largely on the basis of their ability to translate written symbols to their oral equivalent. Though all reading textbooks and materials for teaching reading today are also likely to emphasize the necessity for checking comprehension, observation of classroom practices suggests that the oral translation skills are extremely important to the classroom teacher and supervisor. Thus, though many reading theorists currently believe that nonstandard dialects do not in themselves cause problems in learning to read, a child's dialect can be an important influence in determining how successful the teacher (and, ultimately, the child) perceives the child to be in mastering the reading task.

In recent years, as psycholinguistic theory has been applied to reading instruction, a definition of reading has emerged which puts phonics in a much more subordinate role. Gephart defines reading as:

an interaction by which meaning encoded in visual stimuli by an author becomes meaning in the mind of the reader. The interaction always includes three facets: (1) the material to be read; (2) the knowledge possessed by the reader; and (3) physiological and intellectual activities (Hittleman, 1978).

Reading is seen as essentially a complex process of cognition rather than as an act of "decoding." It is similar to listening in that both involve acquiring information and reconstructing meaning on the basis of patterned symbols; in one case, graphic, and in the other case, phonetic. It is no more appropriate, in this view, to define reading in terms of the ability to translate print to sound than it would be to define listening as the ability to write down what one hears. A frequent assertion by psycholinguists is that meaning precedes pronunciation; the reader must understand the meaning of the word and the context in which it occurs before the word can be pronounced (Hittleman, 1978; Smith, 1978); e.g., read, live, produce. In keeping with this principle that meaning is identified before individual sounds, Smith also believes that it is unnatural for formal instruction in phonics to precede beginning reading instruction. Phonics skill, he insists, is the natural by-product of learning to read. It is only by learning to read that readers acquire knowledge of the letter-sound correspondences appropriate to their own language. If readers are acquiring this knowledge "on their own," they must be learning the sound-symbol relationships which occur with their own dialects, not those of a predetermined set of "standard" pronunciations. It is this question that concerns the present study. Have the children surveyed here acquired phonics generalizations based on the correspondences between their own dialect and the standard graphemes of written English—which could only be self-taught in light of current instructional practice—or have they learned the sound-symbol correspondences of the "standard"

dialect which have been taught to them from the beginning of their formal instruction in reading? If the evidence suggests that their phonics is, indeed, self-taught—i.e., based on their own dialectal patterns—then some support will be provided for the assertion that phonics skill is, in reality, a product of learning to read, not a cause of it.

IV. TESTING FOR MASTERY OF PHONICS KNOWLEDGE

No articles were found which deal specifically with the "how-to" of phonics testing. Interestingly, a widely respected "handbook" on measurement in reading (Farr, 1969) makes no mention of phonics as a part of testing reading ability. The following observations were developed from the comments of reviewers of phonics tests in Buros' Reading Tests and Reviews (1968).

Phonics tests commonly cover consonant sounds, consonant blends (clusters), vowel sounds, common syllables or phonograms, and blending. Phonics tests are frequently criticized for inadequate or inappropriate statistical information (lack of norms; validity and reliability not established). However, one reviewer, R. W. McCulloch (Buros, 1968:237), suggests that the value of the tests "lies in the qualitative rather than the quantitative results; the application of standardization procedures would [be] pointless."

Two test designs were highly regarded by their reviewers. The Primary Reading Profiles, published by Houghton-Mifflin, were described as "ingenious word attack tests" by the reviewer (Buros:253). The

McCullough Word Analysis Tests for Grades 4-6 are described by Albert Harris as "ingenious in design . . . [providing] for group measurement of skills which previously have had to be measured individually" (Buros: 350). The format of the McCullough test requires the examiner to pronounce a word or words with a particular phonological element; the student selects a word or letter(s) printed on the test booklet that has the same phonological element when pronounced, and circles it. Two reviewers question the validity of commonly used procedures for testing phonics skills. N. Dale Bryant (Buros: 346) notes that many phonics tests depend upon the examiner pronouncing a word or sound and the examinee picking a response that corresponds to the presentation. Since production of sound from visual symbols (as in reading) may be very different from identifying a symbol to fit the sound, this type of testing procedure may be invalid as a diagnostic tool. Spache (Buros: 351-2) has also noted that some tests purport to test phonics knowledge by means of a spelling test, when actually different processes are involved in applying phonics skills in reading and in spelling.

It appears that phonics testing at this time is a very rough art with the validity of traditional phonics testing procedures in some doubt. The development of a test instrument must be preceded by a very precise analysis of the skill in question rather than relying on commonly used phonics test formats.

Chapter II has reviewed the research relevant to the issues that are the basis of this study. Chapter III will describe the research design of the study.

CHAPTER III

METHODS AND PROCEDURES

It was the purpose of this study, as stated in Chapter I, to provide evidence which might clarify the following question: Do children acquire their knowledge of phoneme-grapheme relationships intuitively rather than through direct instruction? To guide the research, the following hypotheses, stated in null form, were developed: (1) On a phonics test containing two sets of items, one based on "conforming" features of Inland Southern speech and one based on "nonconforming" features, there will be no significant difference in scores on the two sets of items of students from an Inland Southern speech area. (2) When unexpected responses are chosen to items on a phonics test based on "nonconforming" features of Inland Southern speech, by students from an Inland Southern dialect area, there will be no significant difference between the number of dialect-based alternatives and the number of distractor responses chosen.

The major components of this study consisted of (1) the identification of specific phonemic features of English which occur in different forms in American Standard speech and in Inland Southern speech; (2) the development and administration of an instrument to test phonics knowledge which would allow comparison of students' responses to features which are like and to those that are unlike in their American Standard and Inland Southern forms; and (3) an analysis of the data resulting from the administration of this test instrument.

I. IDENTIFICATION OF NONCONFORMING AND CONFORMING PHONICS ELEMENTS

From a survey of current literature based on field studies of Black nonstandard English and Southern regional standard and nonstandard speech patterns, a list of 22 prominent differences between these speech varieties and American Standard forms was compiled (see Chapter II, pp. 31-35). This list was then analyzed to identify features which had been cited as occurring in both Black and Southern white speech and which this writer has heard regularly in the speech of the Chattanooga inner-city school children with whom she works. Ten nonconforming features thus identified became the focus of the test. These ten features consisted of two initial consonant clusters: /hw/ and /str/; three final consonant clusters: /st/, /θ/, and /nd/; and five vowel features: /æ/, /a/, and /ɛ/ before nasal consonants, and /e/ and /i/ before l. The Teachers' Manuals of the Harper and Row reading series were then surveyed: first, to be certain these features were part of the primary level phonics program (all of them were); and second, to determine what proportion of instructional time each of the consonant clusters was intended to receive. This was estimated by counting the number of references to the feature contained in the indices of the Harper and Row Teachers' Manuals for first and second grades.

A set of ten "conforming" items—i.e., items testing knowledge of phonics elements which are pronounced the same in American Standard and in Inland Southern forms—was then prepared. This set was designed to match, item for item, the first set in as many characteristics as could

be identified and controlled. Consonant clusters were matched according to position in words (initial or final) and by intended proportion of instructional time as suggested by the number of citations in the Teachers' Manuals. Since the vowel variations on which the nonconforming test items were based consisted of vowel changes which occur only when the vowel is followed by a particular consonant (e.g., /æ /—→/e/ before a nasal consonant—/bæ nk/:/benk/), the matching items for the conforming test were derived by using the same vowel sounds followed by consonants which do not affect the vowel in the nonstandard forms (e.g., /bat/). A list of each set of phonics elements thus derived appears in Appendix A.

II. DEVELOPMENT OF THE TEST INSTRUMENT

Once the two sets of items had been identified, a test format was selected and two test items were written for each feature.

There are several different stages in the development of a reader's ability to use phonics knowledge as a reading tool. One early stage is the awareness of the fact that two sounds in different contexts can "sound alike"—e.g., the beginning sounds in boy and bat. Later comes the ability to match letters and sounds; e.g., to recognize that the initial sound in box is "the b sound." Still later comes the ability to look at a word, not previously known to the reader in its printed form, and produce the sounds represented by the letters; e.g., /ʃap/ for shop.

Different phonics test formats test different stages of phonics knowledge development. For example, a test item which displays pictures

of a bird, a children's slide, and a cake, preceded by a stimulus picture of a boy, with oral directions to "find the picture word that begins with the same sound as boy" would be intended to test the student's ability to recognize similarity of sounds (although, of course, there is always the possibility that the student will identify the picture by a name which had not occurred to the test constructor—birthday cake for cake, for example, or sliding board, for slide). An item which displays a picture of a boy, followed by the single letters t, b, w, with oral directions to "circle the letter that stands for the beginning sound in boy" is intended to test the ability to match letters and sounds. Both of these formats are used in the Harper and Row instructional materials. The California Achievement Test measures knowledge of initial and final consonant sounds by having the child match the sound of a word produced by the examiner with one of three words printed in the test manual. Vowel sounds on the California Achievement Test are tested by presenting a written stimulus word followed by four more words all spelled with the same vowel (e.g., cut: tube would rug put); the student is directed to mark the word with the same vowel sound as the key word.

The phenomenon which this research was designed to detect—the acquisition of phonics generalizations based on the nonstandard speech patterns of one's own speech—could be expected to occur at all stages of phonics development; therefore, different testing formats could be expected to produce similar results. The format chosen for this study consisted of a stimulus picture followed by three printed words. The student was directed to circle the word which contained the same

designated phonics feature (i.e., the beginning, ending, or vowel sound) as the stimulus picture. This format was chosen because it minimized pronunciation by the examiner; thus, the children would rely primarily on their own individual pronunciations. It also reduced somewhat the importance of sight vocabulary in taking the test. Whenever possible, the words used on the test were taken from the vocabulary lists of the first grade Harper and Row materials. This is also a common format used in commercial phonics practice materials, and it is the format used in the testing materials used in the McGraw-Hill Prescriptive Reading Inventory, a supplementary reading program which is the basic component of the Title I Support Reading program in the Chattanooga schools.

For each item on the test, three response choices were provided. This was a common format in the testing and instructional materials the children were familiar with, and it was particularly appropriate for the data analysis of this study. For the nonconforming items, one response was correct by American Standard speech forms, one response was based on Inland Southern speech and one was a distractor response unrelated to dialect forms. For the conforming items, two distractor responses were included for each item in addition to the correct response.

After the initial version of the test was completed, this researcher met on three separate occasions with small groups of second graders, 10 to 12 children per group, and examined the test with these children as a phonics exercise. As a result of these meetings, several

of the pictured items which the children knew by more than one name and several words which few could recognize were replaced by more appropriate pictures or words.

After the final version of the test was completed, it was examined by a group of reading specialists to assess its content validity. According to Gay (1976, p. 88), "Content validity is determined by expert judgment. There is no formula by which it can be computed and there is no way to express it quantitatively. Usually experts in the area covered by the test are asked to assess its content validity." The test was submitted for examination to three university professors from the College of Education at The University of Tennessee, Knoxville, who have specific professional background in reading, and to two primary level teachers, both of whom have experience in the Chattanooga Public Schools as classroom teachers and as special reading teachers. These five reading specialists attested to the similarity in format of this test instrument to those of other phonics tests in current use in either the Chattanooga schools or in other schools in the eastern Tennessee area. In this way, the content validity of the test instrument was verified.

Since the test consisted of two items for each feature of the sets of conforming and nonconforming items—a total of 40 items—both the length and the two-part design of the test were suited to the Split-Half procedure for determining test reliability. The test was given in its entirety to a second grade class of 31 students. For analysis, the test items were separated into two subtests, each containing one test item

for each of the 10 conforming and 10 nonconforming items on the test, for a total of 20 items per subtest. This analysis produced a Split-Half reliability coefficient of .54. To adjust this coefficient to more accurately reflect the reliability of the longer, 20-item test, the Spearman-Brown prophecy formula was applied. The corrected reliability coefficient for the total test then was .70.

III. ADMINISTRATION OF THE TEST

The test was administered in the spring to nine second grade classes in Chattanooga, a total of 202 students. By this time of the year, most of the phonics elements being tested have been presented in the Harper and Row materials in the course of the regular classroom instructional program. From a list of second grade classrooms obtained from the Central Office of the Chattanooga Public Schools, nine classes were selected for testing. Of the nine classes selected, four are Title I schools and five are non-Title I schools. The racial makeup of the Chattanooga Public Schools is approximately 60% Black and 40% white. The composition of this group of 202 children was 100 Black and 102 white. There were 99 males and 103 females in the study.

After the classes were selected, each principal of a school included in the study was contacted by the Central Office of the school system. This researcher then contacted the school principal and the teacher of the class involved and made arrangements for the test to be administered. All the testing was scheduled for the first two weeks of May for the convenience of the schools involved. To assure as much

uniformity as possible in the testing procedures, the test was administered to each class by one examiner, Thomas E. Bibler, husband of this researcher. Bibler has taught in public schools in Indiana and holds teacher certification in Indiana and Tennessee. He is currently Professor of Education at The University of Tennessee at Chattanooga. Each teacher remained in the class during the testing. The testing was completed by May 19, 1982.

IV. ANALYSIS OF THE DATA

After the testing was completed, the test results were tabulated first as a comparison of the two subtests, "Conforming Features" and "Nonconforming Features." The t test for nonindependent samples was used to compare the means of each subtest. If this analysis were to indicate that a significant difference did exist between the two means (i.e., that the scores on the Conforming Features subtest were significantly higher than the scores on the Nonconforming Features subtest) Hypothesis One would be rejected. Then, a closer look would be taken at the responses to the Nonconforming subtest items. In this analysis, each of the unexpected responses to an item would be classified as "Inland Southern-based miscue" or "distractor response." This classification would be made for all of the miscued responses on subtest B (Nonconforming Features). The means of the two categories of responses would then be compared by means of a t test, to determine whether or not the Inland Southern response had been chosen with a significantly higher frequency than the distractor response. On this

basis, Hypothesis Two would be accepted or rejected. The results of the analysis are presented in the next chapter.

CHAPTER IV

PRESENTATION OF RESULTS

The focus of this research has been the question: Do children acquire their knowledge of phoneme-grapheme relationships intuitively rather than through direct instruction? The two hypotheses, stated in null form which have provided the impetus for the organizational design of the study, are as follows:

(1) On a phonics test containing two sets of items, one based on "conforming" features of Inland Southern speech and one based on "nonconforming" features, there will be no significant difference in scores on the two sets of items of students from an Inland Southern speech area.

(2) When unexpected responses are chosen to items on a phonics test based on nonconforming features of Inland Southern speech by students from an Inland Southern dialect area, there will be no significant difference between the number of Inland Southern-based alternatives chosen and the number of distractor responses chosen.

The data collected were in the form of test scores on an instrument, designed by the researcher, which measured responses to phonics questions by 202 second grade students in the public schools of Chattanooga, Tennessee. The test instrument consisted of two subtests: A, which contained a set of phonics items based on phoneme-grapheme correspondences which are the same in American Standard speech and Inland Southern (Conforming items); and B, which contained a set of phonics items based

on phoneme-grapheme correspondences of American Standard dialect which may be different in Inland Southern speech (Nonconforming items). Ten phonics elements were examined on each subtest, with two items per feature, for a total of 20 items on each subtest. The two subtests were administered in the form of one 40-item test. The test was scored with conforming items tabulated as subtest A and nonconforming items tabulated as subtest B, yielding four raw scores for each student: one for subtest A, one for subtest B, one for the unexpected responses on subtest B which reflected Inland Southern speech forms, and one for the unexpected responses on subtest B which did not reflect Inland Southern speech forms.

I. HYPOTHESIS ONE

For subtest A (Conforming items), the mean score was 18.46 with a standard deviation of 2.49 and a standard error of .175 (see Table 1). For subtest B (Nonconforming items), the mean score was 12.16 with a standard deviation of 2.96 and a standard error of .208. The mean difference between the two tests was 6.297. This difference has a t value of 28.39 which is significant at the $p < .01$ level. On the basis of these data, Hypothesis One was rejected. There was a significant difference between the scores on subtests A and B. Although the format of the items was the same on both subtests, the vocabulary level of the answer choices was the same, and all of the phonics elements appearing on both tests are taught at the first and second grade levels in the Chattanooga schools, it seems evident that the two tests were not measuring the same thing.

TABLE 1
COMPARISON OF MEANS OF SUBTESTS A AND B

Test	Mean	SD	SE	Mean Difference	t value	Df	2-tail p
A	18.46	2.49	.175	6.297	28.39	201	.000
B	12.16	2.96	.208				

II. HYPOTHESIS TWO

Hypothesis Two concerned the analysis of the unexpected responses to subtest B, which was made up of items based on nonconforming features of Inland Southern speech. This hypothesis stated that there would be no significant difference between the number of unexpected responses chosen which reflected the patterns of Inland Southern speech and the number of unexpected responses chosen which served only as distractor responses. To test this hypothesis, each student's unexpected responses on subtest B were tallied with a separate count being made for the Inland Southern-based responses and the distractor responses. The results of this analysis (see Table 2) show that the Inland Southern form was chosen an average of 7.22 times per test while the distractor response was chosen only .68 times per test. In other words, although the average number of total "errors" on subtest B was 7.9, the distractor response was chosen less than one time per test while the Inland Southern form was chosen more than seven times per test on the average. This difference between the average number of distractor responses and Inland

Southern forms has a t value of 34.23 which indicates a significant difference at the $p < .01$ level.

TABLE 2
COMPARISON OF MEANS OF UNEXPECTED RESPONSES

Unexpected Response	Mean	SD	SE	Mean Difference	t value	Df	2-tail p
Inland Southern	7.22	2.61	.183	6.55	34.23	201	.000
Distractor	.68	1.12	.079				

On the basis of these data, Hypothesis Two was rejected. It appears that the "incorrect" responses were selected purposefully, not at random.

III. SUMMARY

The following research question was posed: Do children acquire their knowledge of phoneme-grapheme correspondences intuitively rather than through direct instruction? To provide evidence to help answer the question, a two-part phonics test was devised and administered to 202 second grade students from an Inland Southern speech area. The test consisted of subtest A, based on phonological features which are the same in American Standard speech and in Inland Southern speech, and subtest B, based on phonological features which are not the same in American Standard and Inland Southern speech. A comparison of scores

on subtests A and B showed that a significant difference existed between the means on the two subtests, indicating that the factor being measured was not the same on both tests. An analysis of the unexpected responses to subtest B indicated that the Inland Southern alternative answer was significantly more likely to have been chosen than the distractor alternative.

CHAPTER V

SUMMARY, DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

I. SUMMARY

Purpose

The purpose of this research was to provide a way of looking at children's acquisition of phonics knowledge—i.e., how they learn the relationships between letters and sounds of the English language—to help answer the question: Do children acquire their knowledge of phoneme-grapheme relationships intuitively rather than through direct instruction? The instrument for this examination was a test, patterned after typical phonics exercises, which made it possible to look at students' responses to two types of phonics questions: first, a set of exercises using stimulus words which are pronounced the same by virtually all speakers of American English; and second, a set of exercises using stimulus words which have varied pronunciations in the regional and social dialects of Inland Southern English. For the first set of exercises (subtest A, Conforming Features), focusing on words with little or no dialect variation, the phonics elements would be relatively clear-cut and obvious to mature readers. For the second set (subtest B, Nonconforming Features), using stimulus words which reflect major differences in sound patterns between American Standard speech and Inland Southern, the phonics elements would be subject to the same sound differences.

Formal phonics instruction, as represented by the commercially prepared materials used in the schools, teaches only the phonics generalizations appropriate to American Standard English. Thus, by looking at relative performances on the subtests (both scored, as all phonics tests are scored, using only the answers appropriate to standard English as "right" answers) of students from a geographic area with distinctive nonstandard language patterns, evidence might be gathered about how these students are acquiring their knowledge of letter-sound relationships. Students' scores on subtest A would give some indication of their general knowledge of phonics concepts. If the scores on subtests A and B were similar, this would suggest that students were not only being taught, but were actually learning the letter-sound relationships of standard English as presented in the teaching materials, even when such relationships were in conflict with their own speech patterns. Such results would give substantial support for the theory that children acquire their phonics knowledge through formal instruction at school. On the other hand, if the scores on subtest B were significantly lower than those on subtest A, and if it could be shown that students who chose an unexpected ("incorrect") answer on B usually chose an answer that was consistent with the students' dialect, some support would be provided for the theory that children acquire intuitively phonics generalizations that are based on the actual letter-sound correspondences of their own language.

Procedures

The following null hypotheses were formulated to guide the research:

(1) On a phonics test containing two sets of items, one based on conforming features of Inland Southern speech and one based on non-conforming features, there will be no significant difference in scores on the two sets of items of students from an Inland Southern speech area.

(2) When unexpected responses are chosen to items on a phonics test based on nonconforming features of Inland Southern speech by students from an Inland Southern dialect area, there will be no significant difference between the number of Inland Southern-based alternatives chosen and the number of distractor responses chosen.

The test was given at the end of the second semester of the school year to 202 second grade students in Chattanooga, Tennessee, representing approximately equal groups of Blacks and whites, girls and boys, from urban and suburban schools. The reading levels of the students, according to teacher assessment, ranged from primer to 3¹. Ten phonics elements were examined on each subtest, with two items per feature, for a total of twenty items on each subtest. The two subtests were administered in the form of one 40-item test. Items were later reassigned to subtest A or subtest B for scoring purposes to provide separate scores for each subtest. The tabulation yielded four raw scores for each student: one for subtest A, one for subtest B, one for the unexpected responses on subtest B which reflected Inland Southern speech, and one for the

unexpected responses on subtest B which were not related to Inland Southern speech. Analysis of these data indicated that scores on subtest B were significantly lower than scores on subtest A. In addition, when an unexpected response occurred on subtest B, the Inland Southern alternative was significantly more likely to be chosen than was the distractor response. The following section provides further elaboration and discussion of this analysis.

II. DISCUSSION OF FINDINGS

By comparing the means of the scores from subtest A and subtest B, it was learned that a significant difference existed between the two means. The mean score for subtest A was 18.46; the mean score of subtest B was 12.16. This difference is significant at the $p < .01$ level. Therefore, Hypothesis One was rejected. Despite the similarity in format, vocabulary, and instructional frequency of the features on both sets of items, the two subtests do not appear to be measuring the same factor.

Further analysis of the unexpected responses to items on subtest B (nonconforming features) revealed that there was also a significant difference between the average number of Inland Southern responses chosen (7.22) and the average number of distractor responses chosen (.68). This difference was significant at the $p < .01$ level. Thus, Hypothesis Two was rejected. When an unexpected response was chosen for an item on subtest B, it appears that the choice was not a random one.

The rejection of Hypothesis One indicates that the children in the study did not respond to phonics questions which conflicted with their

own speech patterns (nonconforming items) in the same way that they responded to questions which did not conflict (conforming items). The subtests do not appear to be measuring the same factor. The rejection of Hypothesis Two indicates that when the children of the study chose an unexpected response on the nonconforming test, they were more likely to choose the Inland Southern-based response than the distractor response (by a margin of more than 10 to 1). Clearly, the students were not randomly choosing the answers to subtest B. They appear to have purposefully selected answers that were appropriate for their own language patterns.

At this point, it might be argued that subtests A and B do, indeed, measure the same thing—i.e., each student's level of learned phonics knowledge; it is the rules for scoring the test, from the student's perspective, which change from subtest A to subtest B. A is scored according to the actual relationships between the student's oral language and written English—which, coincidentally, correspond to standard English forms on all subtest A items. Subtest B is scored, arbitrarily, by a different set of rules—i.e., according to the relationships between written English and standard English, which are not the same as those between written English and Inland Southern speech for the items on subtest B. It appears likely that if we were to score both tests by the same criteria (i.e., accepting either standard English or Inland Southern forms as correct), both tests would appear to be measuring the same thing: the students' ability to match graphemes with the phonemes of their own speech. In other words, these

students seemed to be as knowledgeable about the letter-sound relationships between their dialect and printed English (for which they have received no formal instruction) as they were about the letter-sound relationships of American Standard English and print. In fact, on items where their dialect conflicted with American Standard, they purposefully chose the dialect-based response over the standard English forms which have been stressed in their instructional materials. This lends support to the theory that children learn phonics intuitively—"on their own," so to speak—rather than through direct instruction. It also suggests an explanation for the fact that studies comparing reading achievement and phonics knowledge frequently indicate a high correlation between the two. If phonics is acquired intuitively, it seems probable that such learning occurs during the process of reading since meaningful text would appear to be the major source of phoneme-grapheme information. More reading, therefore, ought to result in more phonics learning. Phonics learning, then, would appear to be a function of learning to read, not vice versa.

In his book, Understanding Reading (1978), Frank Smith contends that learning to read is ultimately a process of "understanding" intuitively what reading is all about in the same way that the learner has come to understand intuitively what oral language is all about. We are never taught, through direct instruction, to speak and understand oral language. We gradually come to understand, through a process of inquiry and problem-solving and after a great deal of practice at speaking and listening, just how the rules of language work.

By the same problem-solving process, with extensive practice and, inevitably, many "mistakes," we come to learn just how reading works.¹ The teacher's role is not to present formally the "rules" of reading, according to Smith, but to provide suitable materials and opportunities for the child to "practice" reading so that the necessary intuitive learning can take place. This view is supported by the results of this research.

III. DISCUSSION OF RELATED DATA

An item analysis of the questions on subtest B produced information which might be useful in further testing of this nature.

Variation in Responses Elicited by Vowel and Consonant Items

Each subtest consisted of ten items dealing with consonant sounds and ten dealing with vowel sounds. The vowel items were much better at eliciting the nonstandard response than were the consonant items (see Appendix B). Though this response was chosen more often than the distractor response on all the consonant items, the highest proportion of students choosing the nonstandard response on a consonant item was 28.2% (on item 3, testing for the initial /hw/ sound with whistle as the stimulus picture). The highest proportion of students choosing the nonstandard response on a vowel item was 89.6% (on item 40, testing for

¹ Researchers studying children's earliest writings have found indications that the same sort of process may be at work when children learn to write (Temple, Nathan, and Burris, 1982).

the vowel sound /æ/ before a nasal consonant, with tank as the stimulus picture). For seven of the ten vowel items, however, over 50% of the students chose the nonstandard response. The vowel item which received the lowest number of nonstandard responses (item 26, testing for /i/ before l, with seal as the stimulus picture) received a higher percentage (34.7%) than the highest consonant item.

There are several explanations that might help to account for these results. It may be that consonant variation is less widespread among speakers of Inland Southern than is vowel variation. This might be explained by the fact that consonants, more often than vowels, appear in initial and final positions of words where they may tend to receive more stress. This might produce nonstandard forms which alternate more frequently with standard forms. Or, it might be that a different test format is required to elicit the same response to consonant items as occurred with vowel items, since there is much more consistent letter-sound correspondence among consonants than among vowels. In addition, since there is evidence that readers pay more attention to the beginning and ending of words than to the middle, the influence of spelling patterns might be more pronounced with the consonant items. Clearly, further investigation of this discrepancy between the influence of nonstandard consonants and vowels would be helpful.

Effects of the Variables: Sex, Race,
Reading Level, Title I Status

Immediately after the test was given in the individual classes, the teacher was asked to code each test booklet to indicate the sex,

race, and reading level of the student. The reading levels so designated were Primer (P) and First Reader (1) (both first grade level); Second grade, first semester (2^1); Second grade, second semester (2^2); and Third grade, first semester (3^1). Although higher and lower range choices were possible in the coding system, no teacher marked a reading level above 3^1 or below Primer. Later, the tests were coded according to whether the class was in a Title I school or a non-Title I school to provide a very general estimate of the economic level of the student. Table 3 provides a description of the test population on the basis of these four variables.

To get an estimate of the effect of these variables, a t test was used to analyze the mean scores on subtests A and B for each variable. The five reading levels were condensed into two groups for analysis: Group One consisted of levels P, 1, and 2^1 (Below Grade Level); Group Two consisted of levels 2^2 and 3^1 (Grade Level or Above). The results show that on both Subtests the mean scores of whites were higher than Blacks, non-Title I students scored higher than Title I students, and those reading at or above grade level scored higher than those reading below grade level. Though the mean scores of girls were somewhat higher than boys on both A and B, this difference was not significant at the $p = .01$ level. Further analysis of individual items indicates that the Inland Southern alternatives on Test B were most likely to be chosen by a student who was Black, male (by a small margin), reading below grade level, and who was attending a Title I school.

Several variations in this pattern are worth noting. Though Blacks generally chose the Inland Southern form in greater numbers than whites

TABLE 3

ANALYSIS OF MEANS ON VARIABLES OF SEX, RACE, READING LEVEL, AND TITLE I STATUS

Variable	Subtest A			Subtest B	
	Mean	t value	2-tail p	Mean	2-tail p
Sex					
Male	18.1	-2.01	.047	11.8	-1.73
Female	18.8			12.5	.085
Race					
Black	18.0	-2.63	.009	11.0	-6.00
White	18.9			13.3	.000
Reading Level					
Below Grade	16.9	-5.82	.000	10.4	-6.64
At or Above Grade	19.3			13.1	.000
Title I Status					
Title I	17.26	-5.85	.000	10.73	-6.54
Non-Title I	19.36			13.24	.000

(even when a majority of the whites also chose the Inland Southern form), for items 25 and 40 (/æ/ before a nasal consonant) this pattern was reversed. For both items related to this feature, a higher proportion of whites than Blacks chose the Inland Southern form. When analyzed by reading level, a higher percentage of those students reading at or above grade level chose the Inland Southern response than did those reading below grade level. Non-Title I students chose this form in greater numbers than did Title I students. This same pattern of reversed proportions held true to a lesser degree for items 24 and 29 (/ɛ/ before a nasal consonant). These data suggest that these two forms may be features of regional standard speech and are not socially diagnostic.

Effect of Sex on /str/: /skr/ Feature

Items 5 and 7 (/str/→/skr/ in the initial position) were the only items testing a feature that was not identified in the literature as occurring in both Black and white speech. Though the Black English response on items 5 and 7 was chosen by only 14.4% and 14.9%, respectively, of the students, 70% and 90% choosing the nonstandard form were Black, confirming that when this feature appears it is more likely to be a feature of Black speech than of white speech. An analysis of the responses to these items by sex, however, revealed that 73% and 75%, respectively, of the students who chose this response were male. It appears that this may more typically be a feature of Black male speech than of Black speech generally.

In Appendix B, each of the items on subtest B is listed. The percentage of students selecting each response to the item is also provided.

IV. CONCLUSIONS

The following conclusions can be drawn from the findings of this study:

(1) Second grade children appear to have a keen awareness of the phoneme-grapheme correspondences of their language.

(2) The phoneme-grapheme correspondences that children acquire appear to be based on their own dialectal patterns rather than on the American Standard forms presented in formal phonics instruction.

(3) Since children of this study appear to be as knowledgeable about relationships between nonstandard features of their speech and printed English as they are about relationships between standard features of their speech and print, it seems likely that these relationships are learned intuitively rather than through direct instruction.

(4) Since such intuitive learning most likely occurs during the act of reading, children can probably improve their phonics skill by increasing the amount of time they spend reading connected text.

V. RECOMMENDATIONS

For Specialists in Reading

Though the basic purpose of this research was to test one theoretical aspect of the psycholinguistic reading model, the research outcomes have practical implications for primary teachers, reading methods teachers, and publishers of instructional materials for reading.

(1) In view of the class time devoted to phonics, it is imperative that teachers be knowledgeable about the individual dialect features of

the students' speech and about the role of a student's own speech patterns in learning phonics. Only with this information can a teacher judge whether an unexpected response is an accurate reflection of the student's own speech and therefore represents genuine learning or whether it is truly an error, representing a misunderstanding of the phonics concept. Goodman (1973) has suggested that it is only when a student translates print into nonstandard form during oral reading that a teacher can be certain that meaning has been understood. Perhaps, the only sure way for a teacher to know that a student is learning phonics successfully is to hear the student give nonstandard dialect-based responses to phonics questions.

(2) Teachers need to be aware of the role intuitive learning may have in learning phonics and the consequent importance of time spent in actual reading. For the child who does poorly on phonics tests, practicing reading with simple stories and books of interest to the child may be a more effective way to improve phonics skill than with formal phonics exercises.

(3) It should be possible without excessive cost to provide answer keys with alternative dialect forms for large geographic areas characterized by distinctive speech patterns. Though some publishers of reading series do mention in the Teacher Guides the existence of "classic" nonstandard forms such as /pIn/ for pen, no degree of acceptability for such forms is granted in the answer keys of these series. While no answer key could reflect all of the speech variation within a particular area (or even one classroom), the presence of

alternative forms would be likely to increase the teachers' awareness of dialect variation among students, of the implications of speech variation for phonics learning, and of the legitimacy of alternate forms in phonics activities.

For Further Research

(1) To confirm and broaden the implications of this study, a logical first step would be to conduct similar research among non-standard dialect groups other than Inland Southern. The instructional consequences suggested by this study might have significant effects upon such groups as Chicanos, Native Americans, and Asian Americans, as well as Blacks and Southern whites.

(2) Since this phenomenon occurred primarily with vowels and only minimally with the consonant features, investigation of other testing formats which might test more effectively for this response with consonant items would be helpful.

(3) Use of the case study method might provide additional information related to this issue. A language sample could be recorded from each student and then a test given similar to that developed for this study. Though the presumably smaller sample size of such a study might produce data of less statistical significance, it might be possible to observe more directly the relationship between speech patterns and phonics knowledge.

Phonics is surely here to stay in the elementary curriculum. When it is accompanied by an awareness of the phonetic variation that occurs

among all language groups and an appreciation of the role such variation plays in learning to read, every child's chances for success in reading are enhanced.

LIST OF REFERENCES

LIST OF REFERENCES

- Abrahams, Roger D. Deep Down in the Jungle, revised edition. Chicago: Aldine Publishing Company, 1970.
- Adler, Sol. Poverty Children and Their Language. New York: Grune & Stratton, 1979.
- Artley, A. Sterl. Phonics Revisited, Language Arts, 1977, 54, 121-6.
- Baratz, Joan C. and Roger W. Shuy, ed. Teaching Black Children to Read. Washington, D.C.: Center for Applied Linguistics, 1969.
- Bereiter, C. and Englemann, S. Teaching Disadvantaged Children in the Preschool. New York: Prentice-Hall, 1966.
- Bernstein, Basil. Elaborated and Restricted Codes: Their Social Origins and Some Consequences, American Anthropologist, 1963, 66, Part 2, 55-69.
- Bernstein, Basil. Sociolinguistic Approach to Socialization: With Some Reference to Educability. Language and Poverty. F. Williams, ed. Chicago: Markham Publishing Company, 1970.
- Bloomfield, Leonard and Clarence L. Barnhart. Let's Read: A Linguistic Approach. Detroit: Wayne State University Press, 1961.
- Burke, Carolyn. Dialect and the Reading Process. Language Differences: Do They Interfere? James Laffey and Roger Shuy, eds. Newark, Del.: International Reading Association, 1973.
- Burling, Robbins. English in Black and White. New York: Holt, Rinehart and Winston, 1973.
- Buros, Oscar K., ed. Reading Tests and Reviews. Highland Park, New Jersey: The Gryphon Press, 1968.
- Dale, Philip. Language Development: Structure and Function. 2nd Edition. New York: Holt, Rinehart and Winston, 1976.
- Davis, Margaret. A Study of East Tennessee Regional Phonology: Its Influence on Reading Performance. Unpublished doctoral dissertation, The University of Tennessee-Knoxville, 1975.
- Farr, Roger. Reading: What Can Be Measured? Newark, Del.: International Reading Association, 1969.

- Feigenbaum, Irwin. Developing Fluency in Standard Oral English. Research Bases for Oral Language Instruction. Urbana, Ill.: National Council of Teachers of English, 1971.
- Fishbein, Justin. A Nonstandard Publisher's Problems. Language Differences: Do They Interfere? Janes Laffey and Roger Shuy, eds. Newark, Del.: International Reading Association, 1973.
- Fries, C. C. Linguistics and Reading. New York: Holt, Rinehart and Winston, 1963.
- Gay, L. R. Educational Research. Columbus, Ohio: Charles E. Merrill, 1976.
- Gladney, Mildred. A Teaching Strategy. Language and Learning to Read. Richard Hodges and E. Hugh Rudorf, eds. Boston: Houghton Mifflin Co., 1972.
- Goodman, Kenneth. Dialect Barriers to Reading Comprehension. Teaching Black Children to Read. Joan Baratz and Roger Shuy, eds. Washington, D.C.: Center for Applied Linguistics, 1969.
- Goodman, Kenneth and Catherine Buck. Dialect Barriers to Reading Revisited, The Reading Teacher, 1973, 27, 6-12.
- Goodman, Kenneth and Yetta Goodman. Reading of American Children Whose Language is a Stable Rural Dialect of English or a Language Other Than English. Final Report: National Institute of Education Project, 1978.
- Harber, Jean and Diane Bryen. Black English and the Task of Reading, Review of Educational Research, 1976, 46, 387-405.
- Heilman, Arthur. Principles and Practices of Teaching Reading. Columbus, Ohio: Charles E. Merrill, 1972a.
- Heilman, Arthur. The New Phonics We Use. Chicago: Rand McNally and Co., 1972b.
- Hittleman, Daniel. Developmental Reading: A Psycholinguistic Perspective. Chicago: Rand McNally and Co., 1978.
- Jensen, Arthur R. How Much Can We Boost I.Q. and Scholastic Achievement? Harvard Educational Review, 1969, 39, 1-123.
- Johnson, Kenneth and Herbert Simons. Black English Syntax and Reading Interference, Research in the Teaching of English, 1974, 8, 339-358.
- Kenyon, John S. and Thomas A. Knott. A Pronouncing Dictionary of American English. Springfield, Mass.: G. and C. Merriam Co., 1953.

- Kurath, Hans, et al. Handbook of the Linguistic Geography of New England. Audrey R. Duckert and Raven McDavid, Jr., eds. AMS Press, 1973.
- Labov, William. Some Sources of Reading Problems for Negro Speakers of Nonstandard English. Teaching Black Children to Read. Washington, D.C.: Center for Applied Linguistics, 1969.
- Laffey, James and Roger Shuy. Language Differences: Do They Interfere? Newark, Del.: International Reading Association, 1973.
- Laubach, Frank C., Elizabeth Mooney Kirk, and Robert S. Laubach. The New Streamlined English Series. Syracuse, N.Y.: New Readers Press, 1969.
- Leaverton, Lloyd. Dialectal Readers: Rationale, Use, and Value. Language Differences: Do They Interfere? James Laffey and Roger Shuy, eds. Newark, Del.: International Reading Association, 1973.
- Lenneberg, E. H. Biological Foundations of Language. New York: Wiley, 1967.
- Loban, Walter. The Language of Elementary School Children. Champaign, Ill.: National Council of Teachers of English, 1976.
- Lucas, Marilyn S. and Harry Singer. Dialect in Relation to Oral Reading Achievement: Recoding, Encoding, or Merely a Code? Theoretical Models and Processes of Reading. Harry Singer and Robert Ruddell, eds. Newark, Del.: International Reading Association, 1976.
- McDavid, Raven I. Dialectology and the Teaching of Reading. Teaching Black Children to Read. Joan Baratz and Roger Shuy, eds. Washington, D.C.: Center for Applied Linguistics, 1969.
- McNeill, David. The Acquisition of Language: The Study of Developmental Psycholinguistics. New York: Harper and Row, 1970.
- Mattingly, Ignatius G. Reading, the Linguistic Process, and Linguistic Awareness. Language by Ear and by Eye. James Kavanagh and Ignatius Mattingly, eds. Boston: MIT Press, 1972.
- Mattingly, Ignatius and James Kavanagh. Relationships between Speech and Reading, Linguistic Reporter, 1972, 14, 1-4.
- Modiano, Nancy. Juanito's Reading Problems: Foreign Language Interference and Reading Acquisition. Language Differences: Do They Interfere? Newark, Del.: International Reading Association, 1973.

- Melmed, Paul J. Black English Phonology: The Question of Reading Interference. Language Differences: Do They Interfere? James Laffey and Roger Shuy, eds. Newark, Del.: International Reading Association, 1973.
- O'Donnell, R. C., W. J. Griffin, and R. C. Norris. Syntax of Kindergarten and Elementary School Children: A Transformational Analysis. National Council of Teachers of English Research Report, no. 8, 1967.
- Ramsey, Imogene. A Comparison of First Grade Negro Dialect Speakers' Comprehension of Standard English and Negro Dialect, Elementary English, 1972, 49, 688-696.
- Read, Charles. Children's Categorization of Speech Sounds in English. National Council of Teachers of English Research Report, no. 17, 1975.
- Ruddell, Robert. The Effect of the Similarity of Oral and Written Patterns of Language Structure on Reading Comprehension, Elementary English, 1965, 42, 403-410.
- Ruddell, Robert. Oral Language and the Development of Other Language Skills, Elementary English, 1966, 43, 489-498.
- Savin, Harris B. What the Child Knows about Speech When He Starts to Learn to Read. Language by Ear and by Eye. James Kavanagh and Ignatius Mattingly, eds. Boston: MIT Press, 1972.
- Shuy, Roger. A Linguistic Background for Developing Beginning Reading Materials for Black Children. Teaching Black Children to Read. Joan Baratz and Roger Shuy, eds. Washington, D.C.: Center for Applied Linguistics, 1969.
- Shuy, Roger. Nonstandard Dialect Problems: An Overview. Language Differences: Do They Interfere? James Laffey and Roger Shuy, eds. Newark, Del.: International Reading Association, 1973.
- Skinner, B. F. Verbal Behavior. New York: Appleton-Century-Crofts, 1957.
- Sledd, James. Bidialectalism: the Linguistics of White Supremacy, English Journal, 1969, 58, 1307-15.
- Smith, Frank. Understanding Reading. 2nd Edition. New York: Holt, Rinehart and Winston, 1978.
- Staats, Arthur W. and Carolyn K. Staats. Complex Human Behavior. New York: Holt, Rinehart and Winston, 1963.

- Stewart, William. On the Use of Negro Dialect in the Teaching of Reading. Teaching Black Children to Read. Washington, D.C.: Center for Applied Linguistics, 1969.
- Strickland, Ruth G. The Language of Elementary School Children: Its Relationship to the Language of Reading Textbooks and the Quality of Reading of Selected Children. Bulletin of the School of Education, Indiana University, 30 (July, 1962).
- Temple, Charles A., Ruth G. Nathan, and Nancy A. Burris. The Beginning of Writing. Boston: Allyn and Bacon, 1982.
- Torrey, Jane W. Illiteracy in the Ghetto, Harvard Educational Review, 1970, 40, 251-259.
- Underwood, Gary. Southern White English. Unpublished monograph, 1973.
- Venezky, Richard. Nonstandard Language and Reading, Elementary English, 1970, 47, 334-45.
- Venezky, Richard and Robin Chapman. Is Learning to Read Dialect Bound? Language Differences: Do They Interfere? James Laffey and Roger Shuy, eds. Newark, Del.: International Reading Association, 1973.
- Wanat, Stanley F. Language Acquisition: Basic Issues, The Reading Teacher, 1971, 25, 142-147.
- Wardhaugh, Ronald. Theories of Language Acquisition in Relation to Beginning Reading Instruction. Theoretical Models and Processes of Reading. Harry Singer and Robert Ruddell, eds. Newark, Del.: International Reading Association, 1976.
- Wolfram, Walt and Ralph Fasold. Social Dialects and Education. The Study of Social Dialects in American English. Englewood Cliffs, New Jersey: Prentice-Hall, 1974.
- Wolfram, Walt and Donna Christian. Appalachian Speech. Washington, D.C.: Center for Applied Linguistics, 1976.
- Zintz, Miles V. The Reading Process. Dubuque, Iowa: Wm. C. Brown Co., 1975.

APPENDICES

APPENDIX A

FEATURES TESTED ON SUBTESTS A AND B

A (CONFORMING FEATURES)

Consonant Clusters

initial /bl/

initial /kw/

final /sh/

final /č/

final /mp/

Vowels

/e/

/a/

/ɛ/

/æ/

/i/

B (NONCONFORMING FEATURES)

Consonant Clusters

initial /hw/

initial /str/

final /st/

final /θ/

final /nd/

Vowels

/e/ before l

/an/

/ɛ/ before nasal consonant

/æ/ before nasal
consonant

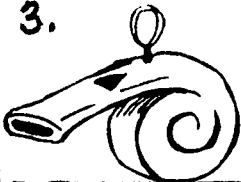
/i/ before l

APPENDIX B

TEST B ITEMS: TYPE OF FEATURE TESTED, INLAND SOUTHERN-BASED ANSWER,*
AND PERCENTAGE OF STUDENTS CHOOSING EACH ALTERNATIVE

Items 3 and 6: Initial Consonant Cluster /hw/ → /w/

3.



how

2.0%

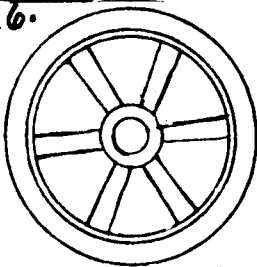
*we

28.2%

what

69.8%

6.



which

91.1%

write

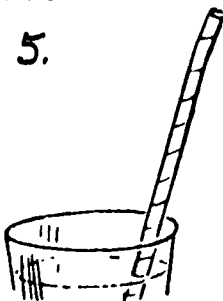
3.5%

*work

5.4%

Items 5 and 7: Initial Consonant Cluster /str/ → /skr/

5.



*screen

14.4%

string

84.7%

spring

1.0%

7.



spray

3.0%

*scrap

14.9%

stripe

82.2%

*Identified by asterisk.

Items 11 and 14: Final Consonant Cluster /st/ → /s/



startst

2.0%

fastst

90.6%

*lessss

7.4%



justst

87.6%

wantst

2.5%

*missss

9.9%

Items 12 and 19: Final Consonant Cluster /θ/ → /f/



withth

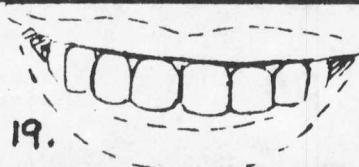
85.1%

*offth

8.4%

frontth

6.4%



catth

2.0%

*ifth

6.9%

bothth

91.1%

Items 15 and 20: Final Consonant Cluster /nd/ → /n/



*cannd

8.4%

talknk

1.0%

handnd

90.6%



*mannd

18.8%

findnd

79.7%

looknk

1.5%

Items 22 and 28: Vowel variation /a/ → /o/ in "on" (bone, phone)

22.



*on
69.3%

know
29.7%

stop
1.0%

28.



out
2.0%

*on
75.2%

old
22.8%

Items 24 and 29: Vowel variation /ɛ/ → /ɪ/ before nasal consonant (bench, fence)

24.



work
3.5%

*him
73.3%

red
23.3%

29.



put
5.4%

let
39.1%

*with
55.4%

Items 25 and 40: Vowel variation /æ/ → /e/ before nasal consonant (bank, tank)

25.



dad
16.8%

*name call
79.2%

4.0%

40.



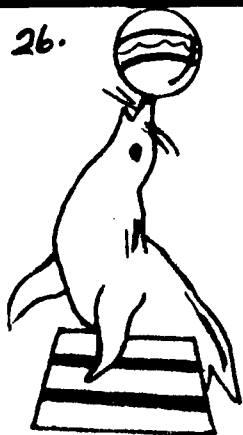
*came
89.6%

far
3.5%

had
6.4%

Items 26 and 31: Vowel variation /i/ → /I/ before l (seal, heel)

26.



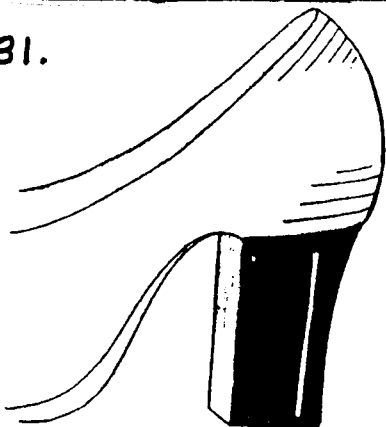
four keep *big

1.5%

63.9%

34.7%

31.



*will feel pull

43.1%

55.0%

2.0%

Items 34 and 36: Vowel variation /e/ → /ɛ/ before l (tail, snail)

34.



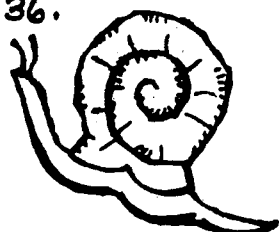
make *let here

41.6%

53.0%

5.4%

36.



name hear *red

40.1%

18.8%

41.1%

APPENDIX C

PHONICS TEST AS ADMINISTERED TO STUDENTS WITH ADDITION OF PICTURE WORD
(IN PARENTHESES) AND AMERICAN STANDARD ANSWER (MARKED WITH ASTERISK)

Sample Item A



far *fly from

stop

1.



play boy *blue

2.



cry *question clock



(whistle)

how we *what

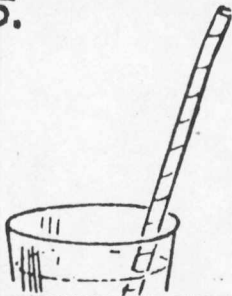
4.



(blouse)

*blow boy bridge

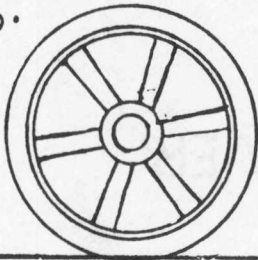
5.



(straw)

screen *string spring

6.



(wheel)

*which write work

7.



(string)

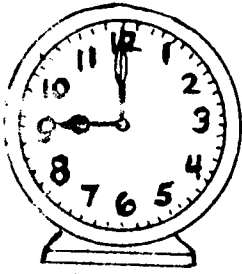
spray scrap *stripe

8.



(question mark)

climb know *quick



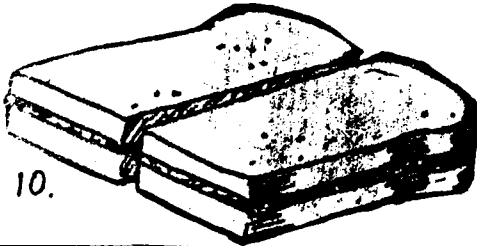
Sample Item B
(clock)

find wish *black
stop



(brush)

find his *wish



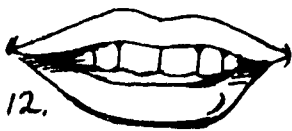
(sandwich)

*much look help



(vest)

start *fast less



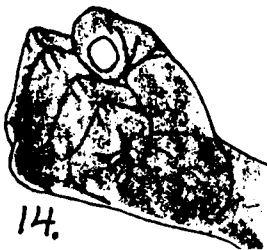
(mouth)

*with off front



(stamp)

from hand *jump



(fist)

*just want miss



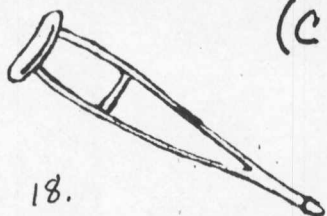
(pond)

can talk * hand

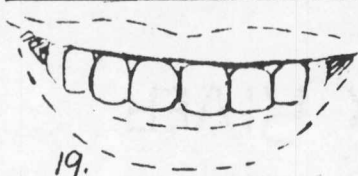
(trash)

* wash with fun

(lamp)

stops * jump swim

(crutch)

laugh * much thing

(teeth)

cat

if * both

(merry-go-round)

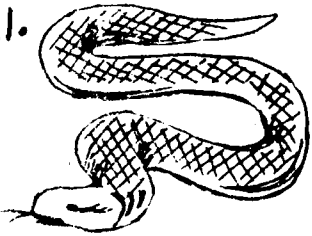
man * find look



Sample Item C
(witch)

rain * big find
stop

21.



(snake)

red far * made

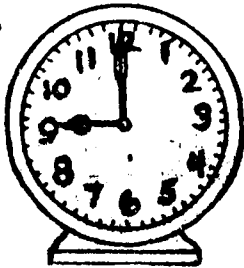
22.



(bone)

on know * stop

23.



(clock)

* hot you move

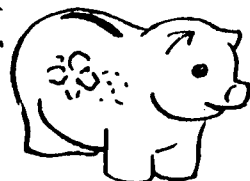
24.



(bench)

work him * red

25.



(piggy bank)

* dad name call



(seal)

four * keep big



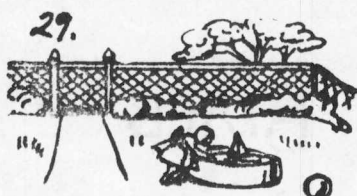
(dress)

new * let with



(phone)

out * on old



(fence)

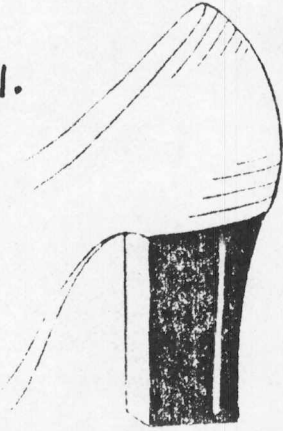
put * let with



(bag)

name start * had

31.



(heel)

will *feel pul

32.



(glass)

*dad came warm

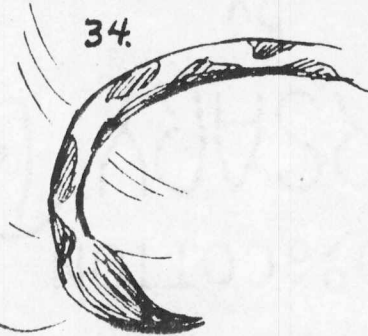
33.



(jeep)

four *feet find

34.



(tail)

*make let here

35.

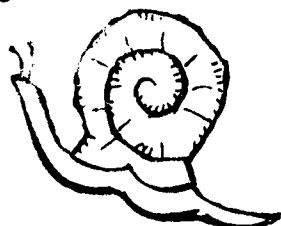


(socks)

out *stop old

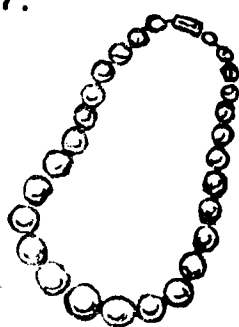
36.

(snail)

*name hear red

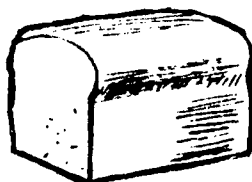
37.

(beads)

her *street new

38.

(bread)

work thing *let

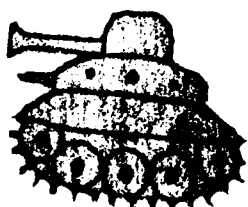
39.

(skate)

*make far was

40.

(tank)

came far *had

VITA

Nancy A. Bibler was born on June 18, 1936 in Muncie, Indiana. She attended elementary schools in that city and graduated from Burris High School in Muncie in 1954. In 1958 she graduated magna cum laude from Indiana University in Bloomington, Indiana, with a Bachelor of Arts degree in French. In 1960 she completed requirements for elementary teaching certification at Ball State University in Muncie, and in 1965 she received a Master of Arts degree in Elementary Education from Ball State. She was awarded the Doctor of Education degree with a major in Curriculum and Instruction from The University of Tennessee at Knoxville in 1982.

Mrs. Bibler taught in the Muncie Community Schools from 1964 to 1966. From 1971 to 1981 she was a member of the Adjunct Faculty of The University of Tennessee at Chattanooga, teaching primarily graduate and undergraduate courses in reading. From 1974 to 1979 she was employed as a part-time instructor in the Learning Center, a reading clinic for college students at U.T.C. She is currently employed by the Chattanooga Public Schools as a Title I Reading Teacher.

Mrs. Bibler is a member of Phi Delta Kappa, Kappa Delta Pi, Pi Lambda Theta, International Reading Association, National Council of Teachers of English, National Education Association and its local and state affiliates.

She is married to Thomas E. Bibler of Chattanooga and has three children, Joseph, Judith, and Andrew.