An Investigation of the Relationships among Several Language Variables and Three Categories of Reading Achievement

Ann McCormick Sweeting

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AN INVESTIGATION OF THE RELATIONSHIPS AMONG
SEVERAL LANGUAGE VARIABLES AND THREE
CATEGORIES OF READING ACHIEVEMENT

THESIS

Submitted to the Graduate Committee of the
Department of Curriculum and Instruction
Faculty of Education
State University College at Brockport
in Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Education

by
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State University College at Brockport
Brockport, New York
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Abstract

The purpose of this study was to investigate the relationships among several language variables and three categories of reading achievement. The sample, thirty second grade students, was given the Test of Language Development and The Metropolitan Achievement Test - Primary II to assess various subskills of language development and reading achievement. The subtest scores of these measuring devices were computer analyzed to determine correlation coefficients among the variables. Significant relationships were found between children's Picture Vocabulary competence and Comprehension, and between children's Grammatic Understanding and Comprehension. Several variables showed negative correlations and almost no relationship existed between some of the variables. This study could be replicated at grade levels other than second; with children of varying reading levels; with respect to factors such as intelligence or sex; or by investigating other language or reading competencies than the ones studied in this research project. A limitation of this study is the small sample. The instruments
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used to measure language and reading ability must be accepted if the conclusions are to be regarded as valid. This investigation found a variety of relationships among language and reading variables.
Chapter I

Purpose

The purpose of this study was to investigate the relationships among several language variables and three categories of reading achievement of second grade students. The aspects of the children’s language ability which were assessed are picture vocabulary, oral vocabulary, grammatic understanding, sentence imitation, grammatic completion, word discrimination, and word articulation. Word knowledge, word analysis, and comprehension are the categories of reading achievement which were measured. The relationships among the language and reading variables were studied.

Need for the Study

Language is the symbolic system used to convey thought from one person to another. Written language takes on a second set of symbols to represent the oral language, thereby allowing thoughts to be conveyed across time and space. Knowledge of the language provides one with the rules of syntax allowing recognition of the relationships of words within a sentence or passage. Meaning is obtained by analyzing the syntax. (Bouchard, 1974, p. 3)
Prior to the revolution in linguistic theory produced by structural and transformational-generative grammars (Bloomfield, 1933; N. Chomsky, 1957) language, linguistic theory, and their method of inquiry played little role in reading theory, research or instruction. Oral language ability was considered irrelevant for explaining individual differences in reading achievement. However, recent research indicates that oral language development, including grammatical interpretation, continues at least throughout the elementary grades (Menyuk, 1963; C. Chomsky, 1970; Strickland, 1962; Loban, 1963; Ruddell, 1966, 1970). Productive application of linguistics to the field of reading made it necessary to formulate and revise theories to incorporate the interrelationships among the stimulus characteristics of writing systems and the response components of phonological, morphological, syntactical, lexical and affective systems. These systems are organized by the reader in order to process and transform the surface characteristics of oral or printed stimuli into a structural form and level which results in a semantic interpretation (Singer, 1969; Ruddell, 1970; Goodman, 1965, 1972).
Throughout the literature studies and research references show inter-correlations between global scores on one of the various language development measures and scores on reading achievement tests. Strickland (1962) found significant relationships throughout the grades between a child's structure of oral language and his/her reading ability. Significant relationships were reported by Loban (1963) between children's reading comprehension achievement and their use of movables and subordination in oral language. An utterance containing movables can be rearranged, e.g. 'They were glad when I finished' can be expressed as 'When I finished they were glad'. Children must comprehend grammatical contrasts before they can produce these contrasts. A high correlation between third grade students' ability to understand the structure of sentences and their reading achievement was found by Gibbons (1941).

A Reading and Language program was designed and carried out in 1975-1976 in a New York City public school for children in grades kindergarten through fifth by Cusano (1976). The children made significant gains in both reading achievement (.01 level of
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significance) as measured by the Stanford Achievement Test and achievement in language ability (.01 level of significance) as determined by the Stanford Achievement Test of Auditory Comprehension. A review of the literature continually displays this organismic trend in research design.

That the richness of a child's language is related to reading success; that words children use in their own speech are easier to read in print than words they do not use; that deficient readers are deficient in oral language; and that speech defects are related to reading problems are indicated in a summary of Hildreth's study (1964). However, Anastasiow demonstrates that "oral language is important only in that it may reflect cognitive and perceptual mastery of language but it is an insufficient and inaccurate predictor for many children of their capacity to learn how to read" (Anastasiow, 1971, p. 35).

On the basis of an empirical study, Bougere (1969) has reservations about the relationship of language competence and reading achievement. She obtained language measures by analyzing first graders'
oral responses to cartoon and picture stimuli. The correlations between these experimental measures of language competence and reading achievement were non-significant. Pike (1976) found by using varying syntactic and semantic content in sentences, that not all children are equally able to make use of semantic and syntactic knowledge in processing oral language and that this knowledge is related to their reading competence.

The relationship between children's reading achievement on a cloze test and their ability to identify sentences which had the same meaning but different structure was studied by Simons (1971). He found a correlation of 0.73 and concluded that comprehension is related to understanding of sentence deep structure. A significant relationship was found between syntax attainment and reading achievement (r=0.70) when second graders were given oral syntax tests and a written syntax test and the Metropolitan Achievement Test (Harris, 1975).

As demonstrated, the literature is heavy with research on inter-relationships between single factors of language development and a comprehensive reading
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competence score. Data have been contradictory and research has offered limited information on the relationship between language competence and reading achievement. Is it possible that various degrees of correlation and non-correlation would be identified if more than one aspect of language competence and more than one aspect of reading achievement were compared? The necessity of answering this question is the reason for conducting this investigation.

Design of the Study

By identifying several components of language development in the general area of semantics, syntax, and phonology, and by identifying several categories of reading achievement, i.e. comprehension, word identification, and word analysis, and assessing a sample of children's competence in each of these areas, the relationships among these variables may be investigated. The Test of Language Development, Empiric Press, 1977, is an instrument which gives a measure of each component of language competence which this study will examine. The subtests which measure a child's semantic development are Picture Vocabulary and Oral
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Vocabulary. The subtests which provide a measure of a child's syntactic competence are Grammatic Understanding, Sentence Imitation, and Grammatic Completion. Phonological skills are measured by Word Discrimination and Word Articulation.

The Metropolitan Achievement Test - Primary II, Harcourt Brace Jovanovich, Inc., 1974, measures the categories this study identifies in reading achievement with subtests of almost identical titles. These subtests are Word Knowledge, Word Analysis, and Reading (Comprehension).

These tests will be administered to a random sample of second grade children to assess various aspects of the children's language ability and reading competence. The data collected from the scores of these tests will be analyzed so relationships among the variables of language development and reading achievement can be studied.

Definition of Terms

Language Development - expansion of the symbolic system used to convey thought from one person to another.
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Phonology - the sound system of the language. It is the means by which the language user may make his/her message verbal (Newcomer and Hammill, 1977, Test of Language Development).

Syntax - the term which designates sentence formation, that is, the correct sequencing of words and inflections in sentences (Newcomer and Hammill, 1977, Test of Language Development).

Morphology - refers to the study of the smallest meaningful units of language, and is often included as a part of syntax (Newcomer and Hammill, 1977, Test of Language Development).

Semantic - the linguistic term which designates meaning. Knowledge of semantics involves the manner in which meaning is associated with morphological or phonological forms, as well as the rules which determine the manner in which meaning is conveyed within a sentence (Newcomer and Hammill, 1977, Test of Language Development).

Reading Achievement - a standardized measure of the mastery of the sub-skills of reading.

Word knowledge - given a picture, a child identifies the word associated with the picture; given
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a word, a child identifies a synonym, antonym, or classification for the word, demonstrating the ability to recognize and understand the meaning of words.

Word analysis - given words of similar configuration or sound pattern, a child must identify a dictated word, demonstrating the ability to recognize sound-letter relationship and skill in decoding.

Comprehension - demonstration of ability to understand the literal and inferential meaning, when required to select a sentence which best describes a given picture and select the best answer to questions about short paragraphs read silently.

Limitations of the Study

The limitations can be related directly to the small number of children in the sample, thirty, and the fact that this may not be a representative group of second grade students. The sample is comprised of white, middle class children and the conclusions drawn from this study may not be extended to other groups without further research. Another area to be considered as a limiting factor, is the means
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of measurement of skills in both language development
and reading achievement. In order to accept the con-
cclusions of this investigation, the testing devices
must be acceptable, also.

Summary

There is a need to investigate the relationships
among several language variables and categories of
reading achievement, since correlations between
language competence and reading performance have
previously been contradictory and confusing. The
research reported throughout the literature deals with
global scores in both language and reading competence.
This investigation will go beyond the over-all view-
point and study relationships among variables in both
areas.
Chapter II

Review of the Literature

The relationship among several language variables and three categories of reading achievement were investigated in this study. In the past a great deal of research has considered language development and reading achievement. First, language development has been studied to determine how language competence has been assessed and what factors influence the development of a child's language. Second, research has examined how reading achievement has been measured and what factors influence children's reading achievement.

Language Development

Language development is the expansion of the symbolic system used to convey thought from one person to another.

Assessment of Language Development

Branston (1976) reviewed the literature on language development and found that its study has been approached from diverse schools of thought. Psycholinguists subscribing to transformational grammar
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(Chomsky, 1957) arrived at the conclusion that because
language is so complex and the environment is so dis­
orderly, the ability to acquire language must be
innate (Chomsky, 1968; McNeill, 1971). On the other
hand, behaviorists portray language as the result
of a history of positive reinforcement in addition to
the conditioning of appropriate discriminative stimu­
lus control (Guess, 1969; Baer & Guess, 1973; Staats,
1974). Between these theories, there emerged from
the study of semantic theory and case grammar (Katz &
Fodor, 1963; Katz & Postal, 1964; Fillmore, 1968) a
semantic view of language acquisition which considered
as primary the meaning and communicative intent of
child utterances.

Bloom (1970) began the application of semantic
analysis. She incorporated into her recordings of
child utterances, descriptions of the context in which
these utterances were used. Schlesinger (1971) and
Brown (1973) advanced the study of semantic intent
in child language. Brown applied the use of case
grammar to the analysis of early language, while
Schlesinger proposed an entirely semantic base for
early utterances. Work by Slobin (1973) and Bowerman
(1973) indicated that language reflects certain universals of development across language cultures. Nelson (1973, 1974) and Clark (1973, 1974), focusing on conceptual and perceptual features of words, have further detailed the early concepts that underlie children's first words. These early concepts are thought to be based upon perceptual information from the environment and influenced by dynamic, action-oriented, perceptual events. Branston (1976) concluded that the semantic-cognitive approach to language development could provide the perspective from which the content and sequence for language programs could be developed.

Traditionally, assessment has entailed the use of standardized tests or criterion-referenced tests for determining appropriate educational placement, prescribing programming approaches, or measuring the effects of various intervention strategies. Developmental scales have been used with children at very early levels of development. More recently, proponents of psychological ecology have been advocating the use of behavior observation in a naturalistic setting as a more powerful and complete means of
assessments (Baldwin & Baldwin, 1973; Miller, 1974). These studies infer that observing children in natural settings affords a clearer picture of typical behaviors and response modes.

The process of language sampling is one form of naturalistic observation which focuses on language behavior. Several techniques for recording and analyzing samples are available (Miller, 1974). Most of these are primarily concerned with syntactic and grammatical aspects of language, although sampling procedures have been developed which analyze semantic aspects of language (MacDonald & Nickols, 1974).

The procedure for collecting child utterances are rather standard. A home-like room wired with a microphone, is the site for most samples. The child whose language is being assessed and an adult, such as a parent or teacher, are asked to play in the room for about half an hour. Specified toys are available depending on the child's level of development. Materials have been approved as models for research purposes. A transcription is made of the conversation with accompanying situational and language context.
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One of three methods of analysis is usually applied to the transcript. The one which is held to be the most advanced is Developmental Sentence Scoring developed by Lee (1974). Fifty consecutive sentences reflecting both subject and predicate are selected from the corpus. Each sentence is scored according to developmental level for eight categories of grammatical form. If the sentence is grammatically correct, an additional point is awarded. The average score for all fifty sentences is compared with the scores of two hundred standard English speaking children to determine the presence and degree of language delay or deviance. The analysis of sentences indicates specific language needs.

If it is impossible to obtain fifty sentences, two other methods of analysis are available. Lee (1974) has developed a procedure called Developmental Sentence Types which requires one hundred utterances but not necessarily complete sentences. This method does not provide a score but will demonstrate progress by a comparison of repeated samplings. To aid in assessment of semantic categories, a procedure was developed for use at the Kennedy Center Experimental
School that allows the charting of semantic functions and relations (Bricker & Bricker, 1973). Each utterance from the language sample corpus is analyzed according to semantic intent and number of words. Through this analysis, it is possible to assess vocabulary content, variety and frequency of semantic relations used, and use of appropriate word order. In this process of assessment the child's current language can be inventoried and compared with reports of normally developing semantic and functional categories. Teaching can then be directed toward lexicon, meanings, and function which are absent from the child's language. The use of language sampling to assess expressive language of children provides an alternative to traditional methods of language assessment.

A traditional way to discover a child's language ability is by asking him to repeat certain sentences. If a child eliminates or changes any portion of any sentence, one might assume that he has not developed to that level (Knapp, 1973). Generally, children's imitations show complexity similar to that of their free speech. Several groups of sentences have been
compiled to assess children's ability to imitate various syntactic forms. Included among these are Menyuk's Sentences, which require imitation of different transformational forms, such as possessive, contraction, or reflexive (Menyuk, 1963). Gleitman, Shipley, and Smith's sentences (1969) develop gradually from those that because of their form are easy to imitate to those difficult to imitate. Anastasiow's sentences (1969) are designed to elicit reconstructions from standard to black English. The correct sentence and its acceptable dialectical equivalent are both given. The changes made by a black child to conform to his dialect should not be perceived as errors.

Comprehension of syntactic forms is measured by a procedure developed by Bellugi-Klima (1971). The child is asked to demonstrate the action described in a sentence, using dolls and other various toys, e.g. 'Show me the boy's Daddy'.

The cloze procedure is utilized by Dale (1972) in an attempt to elicit a correct plural or past tense form from a child using pictures. This instrument can be used with children from three to
eight years old. This is an example of the type of pattern employed: 'This is a wug. Here is another wug. There are two of them. There are two ______.' (wait for response).

Marion Potts developed a method to meet the need of measuring language production to complete her study of differences in language acquisition in various socioeconomic groups. Her technique was a production test administered in a sentence-completion format. It sampled a variety of morphemic and syntactic patterns, and avoided what Potts feels are the problems of imitation and free speech analysis. She indicates that the modelling aspect of imitation may result in a biased estimate of productive control, and free speech may circumvent the structures of interest.

Rosen and Horne (1971) compiled a list of standardized language development measures available. The instruments were all designed for use with preschool and lower elementary grade children and were all able to be administered by teachers or untrained personnel. The instruments were found through a search of Research in Education and the Current Index
to Journals in Education. These were the language measures listed: Assessment of Children's Language Comprehension, Cooperative Primary Tests: Word Analysis Test, Dade County Test of Language Development, Dailey Language Facility Test, Dominion Individual Diagnostic Word Analysis Skills - Primary, Houston Test of Language Development, Illinois Test of Psycholinguistic Abilities, Parson's Language Sample, Picture Story Language Test, Preschool Language Scale, Riley Articulation and Language Test, Tests of Basic Experiences: Language Subtest, and Verbal Language Development Scale. These tests are all annotated to provide information about the purpose of the test; the groups for which it is intended; test subdivisions or tested skills, behaviors, or competencies; administration; scoring; interpretation; and standardization.

Newcomer and Hammill (1977) observed that there were several avenues through which to assess a child's language development and pointed out disadvantages and problems in each method. When a child is given an assortment of tests to obtain a comprehensive overview of his language skills, it must be kept in
mind that each test is uniquely standardized and normed, the scores must be interpreted independently, and the scores cannot be used to compare strengths and weaknesses. A variability in scores of several tests may be due to differences in reliability and validity for each test. Fatigue is a major factor to consider on both the part of the child and the examiner, when interpreting the results of large number of tests given in a relatively short period of time.

Tests are administered which are purported to measure various psychological functions presumed to underlie language development. The problem in this case is that it has not been demonstrated convincingly that a practical relationship exists between tests of psychological constructs and tests of spoken language.

When an analysis is done of children's free speech there is a problem of questionable reliability. It is difficult to select a representative language sample as a child's language varies to a great degree, and scoring the sample presents another problem. The language sample technique is extremely time
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21 consuming and cumbersome to use and cannot be used effectively to identify quantitatively the child's specific language deficits.

With these disadvantages and problems in mind, Newcomer and Hammill (1977) devised a comprehensive measure of child language competence, The Test of Language Development. This language test is made up of seven subtests: Picture Vocabulary - the child points to one of three pictures when given an oral stimulus; Oral Vocabulary - the child gives his definition orally to a one word stimulus; Grammatic Understanding - the child points to one of three pictures when given sentences, verbally, which contain various syntactic forms; Sentence Imitation - the child repeats thirty sentences of varying grammatical structures; Grammatic Completion - this samples various morphemic and syntactic forms by having the child complete a sentence given by the examiner; Word Discrimination - tests a child's ability to discriminate between similar phonemes by identifying twenty pairs of word as the same or different; Word Articulation - the child pronounces a word when given a pictoral and sentence completion stimuli.
Within the framework of one test, a comprehensive picture of the child's language ability, his strengths and his weaknesses can be seen. Fatigue is generally not a factor because the whole battery of subtests takes only thirty minutes to administer. The subtests are each normed with a comparable language test and then normed as a total test with over one thousand children from various regional areas in the United States, with various socioeconomic backgrounds, and with various racial backgrounds.

No research studies could be located which used the Test of Language Development as part of an investigation. With the qualities which the instrument possesses, it is possible that it will be used in future studies to explore children's language ability and compare various aspects of language development with any number of factors; e.g. environmental, physical, sexual, scholastic and others.

Factors Which Influence Language Development

Four areas will be explored in considering factors which have an effect on a child's language competence and its development. These areas are:
equipment the child possesses, home influences, school influences, and community influences.

Equipment the Child Possesses

The first area to be investigated when considering influences on a child's language development is the equipment the child possesses for language growth. The child must be able to see, hear, feel, move, understand, make associations, coordinate activities and adjust to the environment if he is to grow at a normal rate in language ability. Some factors necessary for the emergence of a language process are the physical, such as health, nutrition, glandular secretions that determine growth, muscular coordinations that can be trained, sensory and motor equipment that receives and responds to stimuli; and the psychological, such as intelligence and personal adjustment (Meader & Muskins, 1950).

Language development appears to be a function of cognitive processing operations in productive interaction with a linguistic environment and this developmental interaction continues as the brain matures (Athey, 1971; Lenneberg, 1967; Slobin, 1966).
The child must be able to make associations, to build neural pathways, to receive impressions and to respond with activity. He must have sufficient intellectual capacity to learn language habits and retain them. He does not learn all the associations immediately, but begins to acquire them during infancy and continues this intellectual process throughout his life. The relationship between intelligence and the development of linguistic ability has frequently been pointed out and emphasized by research (Carmichael, 1946; Merry & Berry, 1950; Van Riper, 1947; Watts, 1947; West, Kennedy, & Carr, 1947).

The ability to hear is of great importance to the learning of language. The child must be able to receive and comprehend the auditory stimuli that bombard him, or he will not respond with the vocalization and articulatory movements that will develop into oral language. A deaf baby will gurgle and cry, as deafness does not inevitably mean muteness, but he will not continue to use vocal sounds in response to others unless he receives special training (Gesell & Amatruda, 1947; Van Riper, 1947; Van Riper, 1950).
A child must master the physical movements of articulation and phonation, if language is to be learned. As in most other areas of development, language and speech abilities progress in a continuing manner, though periods may overlap, and the rate of progress may vary (Mayer, 1974). An efficient mechanism for producing speech sounds is needed by children. In the language learning process, a child needs speed, accuracy, steadiness, and strength of voluntary movement (Merry & Berry, 1950).

Even at an early age, a child has language abilities, chiefly in listening and speaking. He lives in a predominately oral world for five or six years but as he grows older, he acquires more and more facility in using the equipment he has for all the language skills (Wells, 1953). Throughout life, one depends on intellectual abilities, association skills, muscular coordination, vision, hearing, kinesthetic sense, physical structure and environmental experiences as a means of facilitating the use of language.
Home Influences

The home is the place where a child has his first language lessons and the varying degrees of language skills children display when they reach school-age, are to a considerable degree the products of the kinds of experiences the children have had in their homes during the pre-school years. It has been shown that babies who are brought up in a family group, situation vocalize more and in a more advanced manner than babies raised in an institutional environment (Brodbeck & Irwin, 1946; Goldfarb, 1943a, 1943b; Freud & Burlingham, 1944; Goldfarb, 1945; Roudinesco & Appell, 1950). The evidence shows that the lack of individual attention and mothering that the child raised in an institutional environment experiences results in a general retardation in motor, language, and social behavior and that the most serious retardation occurs in the language area.

Another group of studies indicates that the amount of contact the child has with his mother who is his first language teacher is related to the rate at which he progresses in language growth. The child gives his first responses and echoing vocalizations
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to his mother's smile and voice (Stengel, 1947). Mothers interpret the culture to children through the medium of language and impress upon children the socializing experiences of living by the rules of formal communication. The more opportunity a child has to hear a friendly voice and to imitate a correct model, the more rapid is his language growth (McCarthy, 1953). The only child, who has the undivided attention of the mother over a longer period of time than other children, is the most precocious child in learning to speak and use the language (Davis, 1937). However, twins and others of multiple births, are often retarded in language development (Blatz, Fletcher, & Mason, 1937; Davis, 1937; Day, 1932). Girls who usually spend more time with their mothers than boys, often are more advanced in language than boys (McCarthy, 1930).

Further indications of qualitative differences in the home atmosphere of children who are advanced or retarded in language development comes from a study by Milner (1951). This investigator found that children who were in the lowest third of their class in first grade language scores did not eat breakfast
with their parents. No adult talked to them in two-way conversations. Some of the children heard only orders or instructions, and there was no active participation in conversation by these children either before school, at supper, or during the usual household routines when most children have considerable opportunity for conversation and linguistic stimulation in the family circle. It was also revealed that this group of children did not receive any outward show of affection from significant adults in their homes and that they received direct physical punishment as a disciplinary measure. In contrast, the children whose language scores were in the upper third of their class, received a considerable amount of affection and evidence of acceptance by their parents. This group of children was disciplined with controlling, preventing, and prohibitory techniques rather than with physical punishment.

Bilingualism presents an additional problem for children adjusting to a school situation. The inability to communicate with a new language system can cause insecurity at any age level. If interest is shown in the child's language and respect is
given the culture and native tongue of a child, his attitude about himself and others will be positively affected. One's language habits have deep emotional roots (Buxbaum, 1949; Feldman, 1948). The ease with which one overcomes a foreign accent, or the tenaciousness with which he retains it may be an unconscious symbolic reaction to people and events in early childhood with which such speech patterns have become associated.

Children differ in the range of experiences they have been exposed to by the home situation (Drever, 1915-16). Those who live in, or have visited the country, have probably acquired words like 'tractor', 'pasture' and 'acre' in their vocabularies. Those whose families have broadened their experiences by taking them to visit the seashore, a zoo, or a dairy, and who take time to explain words and activities to the children will have much more extensive vocabularies on which to build their language arts, than children who come from barren homes, who have never been on a vacation, been to a farm, or had a ride on a train.
Some homes have provided the child with many playmates near his own age and some children have older brothers and sisters to play with. On the other hand, he may have only younger children to play with or perhaps he has been isolated from children of his general age group. All of these children might come to school ready for different types of activities and experiences. The range of language needs of children is wide because of the ways the home environment makes children different as they approach school and further language development situations (McCarthy, 1953).

**School Influences**

A child's growth in language during his school years is influenced by many factors. The teacher is an important aspect of the language curriculum. The teacher's voice, vocabulary, enunciation, pronunciation, choice of words, and sentence structure all influence children in a variety of ways. Children also react to the personality of the teacher and the climate for learning which is developed in the classroom (Strickland, 1953). Children sense the
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teacher's attitudes, values, and ideals even though they may not be expressed in words.

Teachers use language to bring about many reactions in children. Language may be used to stimulate thinking or to discourage it. The teacher's use of language can help children to reason independently or to accept statements without question. A child's self-respect and sense of worth might be affected by a teacher's intolerance or impatience.

Language is used by teachers to control behavior, but the effectiveness of language control varies with several factors. Olson (1938) calls attention to the fact that in nursery school, approximately ninety percent of the controls are through language, but as children grow older, less effort is spent on language designed to produce socially acceptable behavior. A study of language controls used by teachers was conducted by Johnson (1938). These generalizations were drawn: Suggestions and encouraging remarks impelled children to accept or to continue simple tasks, while children who were given no guidance or approval frequently abandoned the tasks; specific requests were more effective than
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general ones; pleasant requests were more effective
than scolding; hopeful remarks were more valuable
than depriving ones; and simple requests were more
effective than threats. According to Olson (1938),
language is circular in character. Integrative
language on the part of the teacher produces integra-
tive behavior on the part of the child, while in-
effective, or devisive language, may produce resist-
ance or aggression.

Young children are particularly influenced by the
teacher's language. They imitate quite unconsciously
and when they tell a story or repeat a poem they have
heard a teacher read they are likely to use the
teacher's manner, speech patterns, rhythm and dramatic
interpretation (Gesell & Gesell, 1946). Opportunities
to share and report orally under the teacher's guidance
help children learn to express themselves with in-
creasing ease and clarity (Dawson, 1951; Strickland,
1951). These experiences also give children an
opportunity to listen and to react to the contributions
of others. These abilities grow more rapidly in the
group situation provided at school than in neighborhood
play or at home with people of varying ages and relationships.

In the past, the atmosphere in the classroom was often one of isolation for the student, communication among children being discouraged. Strickland (1951) found that the classroom has changed during this century to more of a workshop atmosphere, where creativity and cooperation are channeled to experience and learning. A study of the relationship of school atmosphere to children's reactions in frustrating situations was revealing. Mensch and Mason (1951) discovered that in the traditional school studied children's reactions were over-conforming, while in the more progressive school they were under-conforming. These investigators concluded that their data support other studies which indicate that more permissive environments provide conditions under which children are more likely to initiate development of their own capacities.

One of the special tasks of the schools is the introduction of children into the understanding and use of written language. Modern schools center their first efforts on building interest in poetry, stories,
books, and helping children enjoy them (Almy, 1949). The school's influence on children through books, reading, and literature has four major facets, according to Almy. These facets are: the provision of adequate quantity and variety of books and other materials and sufficient time to use them; help with developing reading skills; guidance in the selection and use of reading materials; and any therapy which may be needed.

In conclusion, it seems that the influence which the school exerts on the language development of each of its pupils is only one of many influences. Some of these strengthen the school's influence, while others undermine it. The language behavior of each child is too complex for any single institution to be held entirely responsible for it.

Community Influences

Research studies of the effect of community influences on language growth are few. Available studies show, however, that pre-teen children desire gangs, clubs, and other groups, free, or partially free of adult domination. Crosby (1953) states that this
desire for freedom is sometimes shown in the use of language which is offensive to adults or may violate home or community standards. Zachry and Lighty (1940) cite the values of group life activities for children of elementary age in terms of establishing independence from parental control. The pre-adolescent groups' language is usually characterized by a love of slang which is frequently indigenous to the local community. This may be a continuation of the interest shown by the young child who is experiencing his initial use of language and may provide a clue, as suggested by Strang (1949), for the introduction of the learning of foreign languages in the elementary schools.

The socioeconomic status of a community is felt by some researchers to be an important factor in children's language growth. Strickland (1951) cites a study of vocabulary of several thousand children which showed that at ten years of age, children of a high socioeconomic group scored on an average fifty percent higher than children from poorer communities. The difference between the two groups
diminished with increase in age, until at age fourteen there was little difference in vocabulary scores.

Language growth in young children can develop through vital experience in community living. The community experience can be content for developing language. The church is an influence within the community with which the child may come into contact. Plagemann (1951) reported an experience of a father who became a Sunday School teacher and used skillful language processes, including discussion, dramatizing, and script writing, to help children change their attitudes and behavior.

Libraries contend with media such as television and radio as influencing factors on children's language development. Crosby et al. (1943) studied six hundred primary children's recreational pursuits in a community where close working relations existed between public schools and public libraries. The study revealed that playing with friends and listening to the radio were the favorite out-of-school activities of the participating children. Thirty-eight percent of the children used the public library regularly and
eighty-three percent read for pleasure daily.

Camping experiences, scouting groups, and recreation programs are among the organized activities which can aid children's language growth. These programs should provide, in addition to the outdoor living and physical exercise aspects, related activities such as dramatics, story-telling, creative writing, and discussion (Hammett & Musselman, 1951).

Many years ago, Walt Whitman in "Leaves of Grass" described the interaction between the child and his community with the words of a poet. These lines show us a potent picture of the impact of community life on the language of the growing child:

There was a child went forth every day,
And the first object he look'd upon, that object he became,
And that object became part of him for the day or a certain part of the day,
Or for many years of stretching cycles of years.

The early lilacs became part of this child
And grass and white and red morning-glories,
and white and red clover, and the song of the phoebe-bird.

And the fish suspending themselves so curiously below there, and the beautiful curious liquid,
And the water-plants with their graceful
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flat heads, all became part of him.

And the schoolmistress that pass'd on her way to the school,
And the friendly boys that pass'd, and the quarrelsome boys,
His own parents, he that father'd him and she that had conceiv'd him in her womb and birth'd him,
They give this child more of themselves than that,
They gave him afterward every day, they became part of him.

The family usages, the language, the company, the furniture, the yearning and swelling heart,
Affection that will not be gainsay'd
The sense of what is real, the thought if after all it should prove unreal,
The doubts of daytime and the doubts of nighttime.
The curious whether and how, whether that which appears so is so, or is it all flashes and specks?

These became part of that child who went forth every day,
And who now goes, and will always go forth every day.

Reading Achievement

Reading achievement is a standardized measure of the mastery of the sub-skills of reading.

Assessment of Reading Achievement

Since this study defines reading achievement as a standardized measure of skills, standardized
testing is the area of assessment researched. In 1914 there were around 139,000 soldiers in the United States Army (Finder, 1975). With the onset of World War I, the Army grew rapidly to around two million. Therefore, the Army was faced with an immense task of sorting. Decisions had to be made promptly about which people should be selected for certain types of jobs, so psychologists were put to work on the problem. One result was the Army Alpha Test. When this test was administered to a random group, the Army was told who was high, middling, and low on this particular instrument which was claimed to measure mental alertness. When the war ended, some of the psychologists who developed this type of test took jobs in colleges and universities. They taught the techniques of test construction they had developed in the Army and adapted these to civilian education uses. A result is that today such normed or standardized tests are widely used to assess achievement in many areas. Reading is one of these areas. The purpose of standardized tests is to determine how one student compares with another on a scale from high to low.
Available reading achievement tests, consisting of batteries of sub-tests, are designed to measure component skills necessary in reading (Calfee & Venezky, 1968). The list of standardized reading achievement tests is extensive and all have as a purpose assessment of various sub-skills of reading or reading readiness.

The one examined more closely in this investigation is the Metropolitan Achievement Test - Primary II. A standardized achievement test is different from teacher-made tests in that it provides for comparable evaluation in different subject areas, comparable evaluation from year to year, and has valuable supplementary information such as national norms and item data (Durost, et al., 1971). The standardization samples were selected to represent the national population in terms of geographic region, city, size, socioeconomic level, and public versus non-public schools. The Primary II battery contains these sub-tests in the area of reading: Word Knowledge - forty items measure the extent of pupils' reading vocabulary. Seventeen items are in the word-picture association
format. Twenty-three items require pupils to identify a synonym, antonym, or classification for a given word; Word Analysis - thirty-five items measure pupils' knowledge of sound-letter relationships or skill in decoding. Pupils must identify a dictated word from several printed words which have similar configurations or sound patterns; Reading - forty-four items measure pupils' comprehension of written material. Thirteen items require pupils to select one of three sentences which best describes a given picture. Thirty-one items require pupils to read a paragraph and answer questions about that paragraph.

This type of test helps educators evaluate pupil progress over the years and identifies particular strengths and weaknesses among the pupil population. More specifically, the tests, including supplementary interpretive materials are designed to help teachers plan for instruction based on pupils' needs and differences and to evaluate the effects of previous instruction; and to help administrators assess school-wide progress toward educational goals and to plan for and evaluate curricular changes. By using the sub-test results, various aspects of reading
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achievement might be compared with many factors, such as other areas of scholastic achievement, environmental, physical, sexual, and other elements one wishes to investigate.

Factors Which Influence Reading Achievement

Reading achievement is one of the most widely researched topics in education. After a comprehensive analysis, Chall (1967) summarized the research conducted up to 1965 and advanced the following ideas for consideration (pp. 83-85):

1. The first step in learning to read in one's native language is essentially learning a printed code (phonics) for the speech we possess.

2. Early stress on code learning, ... not only produces better word recognition and spelling, but also makes it easier for the child eventually to read with understanding...

3. Analysis neither proved nor disproved that their (the linguists') methods (or those of the alphabet reformers) were better than the other code-emphasis methods, e.g. systematic phonics.

4. There was no evidence that either a code or meaning emphasis fosters greater love of reading or is more interesting to children.

5. There is some experimental evidence that children of below-average and average
intelligence and children of lower socioeconomic background do better with an early code emphasis.

6. A stronger code emphasis would help prevent reading failure, although never eliminate it entirely.

When looking at the specific factors which affect reading achievement, the authors of an extensive study of the Newton, Massachusetts, public schools (Austin, et al., 1961) noted the importance of factors within the child, such as mental ability, physical attributes, the effect of home environment, and factors within the child’s school experience. The following conclusions were drawn relating to school-based factors (p. 155):

1. Children who attended nursery school before entering first grade had significantly higher reading achievement ... than those who did not.

2. It made no difference at what age the child entered first grade.

3. Moves between schools, whether within the city or from outside, appeared to have no effect on the child's reading performance ...

4. There was no apparent relationship between the pupil's attendance record and his reading success ...
5. Reading success in relation to mental ability varied significantly from school to school.

6. Reading success varied significantly from teacher to teacher, even after the effect of school variation per se were eliminated ... The skill of the teacher is probably more important than the amount of teaching experience she has had ... Some evidence pointed to the possibility that the teacher's knowledge of English orthographic principles (sometimes called 'phonics') had some relation to her teaching success.

Weber (1971) provided another summary of the school-based factors associated with reading achievement of third graders. He studied four inner-city schools in the United States where third grade reading achievement was at or above the national grade level norm. Weber's descriptions of these schools indicated that the following factors are associated with successful reading programs in inner-city schools: strong leadership, high expectations, good atmosphere, strong emphasis on reading, additional reading personnel, use of phonics, individualization, and careful evaluation of pupil progress. Among the characteristics which he classified as non-essential were: small class size, achievement grouping, quality
of teaching, the ethnic background of the principals and teachers, the existence of pre-school education, and elaborate physical facilities.

Data connecting sixth grade reading comprehension scores with a variety of factors was provided through a study by the Board of Education for the Borough of North York (1972). Information collected from student questionnaires indicated that reading comprehension test scores are positively related to pupil self-ratings, possession of a library card, the amount of time spent reading for enjoyment at home, the amount of reading done on an average night for homework assignments, the variety of subjects in which books are read for enjoyment, and homes in which English is the only language spoken. Ruddell (1968) found that when instruction in syntax and morphemes was added to a primarily phonological approach children's reading ability improved as compared with reading achievements obtained through basal readers alone.

There are a number of studies which attempt to isolate the school-based factors having an effect on
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reading achievement, but few of these studies deal with students beyond fourth grade and the results are often contradictory (Dilling & Farrell, 1973). What these studies provide, however, is a number of hypotheses which could be tested in other areas at other grade levels.

Another area into which numerous researchers have delved, is the sexual factor in reading achievement. The sex factor was one consideration of a Florida study by Spache and others (1966) to determine the effect of an intensified and extended reading readiness program upon first grade reading achievement. Findings disclosed that sex differences favored girls. Tanyzer and Albert (1966) investigated the effect of three different basal systems on the reading achievement of first grade children according to sex and different levels of intelligence. They found that in each of the three basal systems, girls achieved higher mean scores. Many other studies (Wyatt, 1966; Schneyer, 1966; Hanson, 1967; Hammond, 1967; Stroud & Lindquist, 1942; Aven & Chrisp, 1967) which ranged from investigations of first graders to college students, found girls achieving
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significantly higher scores on various reading achievement tests. It is apparent that boys may need special attention in this area of the learning process.

The skill, effort, and the concern required to help children expand upon, or in some cases, overcome other influences on their reading achievement present a great challenge. The teachers' reward is the gift of literacy to their students - the 'bequest of wings' bestowed upon their pupils. As expressed by Emily Dickinson ...

He ate and drank the precious words,
His spirit grew robust;
He knew no more than he was poor,
Nor that his frame was dust.

He danced along the dingy Days,
And this bequest of wings
Was but a book. What liberty
A loosened spirit brings.

(cited in Johnson, 1961, p. 302)

Summary

As shown in this review, both language development and reading achievement are topics which are extensively researched in the literature. Assessment of
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each is carried out by many various methods. Many diverse opinions exist concerning the best modes of measurement. Many factors affect both language development and reading achievement. Most research suggests that the home, the school, the community and the factors within the child, such as physical and psychological aspects, influence a child's total competence in language and reading. The studies' conclusions vary, in that each emphasizes an area unique to the interests and concerns of the individual doing the research. It must be kept in mind that every aspect of the child's environment affects him and the results are evident in the assessment of a child's language development and measurement of his reading achievement.
Chapter III

The Research Design

Purpose

This research study was concerned with the degree of relationship among several language variables and several categories of reading achievement. The study answered the following questions:

1. What is the relationship between Picture Vocabulary competence and Word Knowledge?
2. What is the relationship between Picture Vocabulary competence and Word Analysis?
3. What is the relationship between Picture Vocabulary competence and Comprehension?
4. What is the relationship between Oral Vocabulary competence and Word Knowledge?
5. What is the relationship between Oral Vocabulary competence and Word Analysis?
6. What is the relationship between Oral Vocabulary competence and Comprehension?
7. What is the relationship between Grammatic Understanding competence and Word Knowledge?
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8. What is the relationship between Grammatic Understanding competence and Word Analysis?

9. What is the relationship between Grammatic Understanding competence and Comprehension?

10. What is the relationship between Sentence Imitation competence and Word Knowledge?

11. What is the relationship between Sentence Imitation competence and Word Analysis?

12. What is the relationship between Sentence Imitation competence and Comprehension?

13. What is the relationship between Grammatic Completion competence and Word Knowledge?

14. What is the relationship between Grammatic Completion competence and Word Analysis?

15. What is the relationship between Grammatic Completion competence and Comprehension?

16. What is the relationship between Word Discrimination competence and Word Knowledge?

17. What is the relationship between Word Discrimination competence and Word Analysis?

18. What is the relationship between Word Discrimination competence and Comprehension?
19. What is the relationship between Word Articulation competence and Word Knowledge?

20. What is the relationship between Word Articulation competence and Word Analysis?

21. What is the relationship between Word Articulation competence and Comprehension?

Methodology

Subjects

The sample consisted of thirty second grade students, seven or eight years old, twenty males and ten females, who attend a middle class suburban elementary school in Western New York State. The students were selected at random from three multi-aged grouped classrooms.

Instruments

The Test of Language Development, Empiric Press, 1977, is an instrument which gives a measure of each component of language competence which this study examined. The subtests which measure a child's semantic development are Picture Vocabulary and Oral Vocabulary. The subtests which provide a measure of
a child's syntactic competence are Grammatic Understanding, Sentence Imitation, and Grammatic Completion. Phonological skills are measured by Word Discrimination and Word Articulation.

The Test of Language Development was developed by Phyllis Newcomer and Donald Hammill and is not a global but an itemized assessment of children's language competence. Receptive and expressive skills are both measured by this instrument. Receptive skills are assessed by Picture Vocabulary, normed with the Peabody Picture Vocabulary Test, Grammatic Understanding, normed with the North Western Syntax Screening Test, Grammatic Completion, normed with the I.T.P.A. subtest Closure, and Word Discrimination, normed with Wepman Test of Auditory Discrimination. Expressive skills are measured by Oral Vocabulary, normed with the W.I.S.C. subtest Oral vocabulary, Sentence Imitation, normed with the North Western Syntax Screening Test, expressive subtest, Grammatic Completion, normed with the I.T.P.A. subtest Closure, and Word Articulation, normed with the Templin-Darley Articulation Test. The total Test of Language Develop-
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ment was normed with 1,014 children across the United States, in urban and rural areas, with children of diverse socioeconomic backgrounds, and various racial groups. The test was devised to identify areas of language deficit, and subtests may be administered independently. The test involves no writing by the child. Only verbal responses or pointing at correct pictures are required.

The Metropolitan Achievement Test - Primary II, Harcourt Brace Jovanovich, Inc., 1974, measures the categories this study identified in reading achievement with the subtests Word Knowledge, Word Analysis, and Reading (Comprehension).

Procedure and Statistical Design

The Metropolitan Achievement Test - Primary II, form G, was administered to the total sample to assess various categories of the children's reading achievement: Word Knowledge, Word Analysis, and Comprehension (Reading). Within two weeks of the administration of this group achievement test, The Test of Language Development was given individually to each student in the sample to assess various
aspects of each child's language ability: Picture Vocabulary, Grammatic Understanding, Oral Vocabulary, Sentence Imitation, Grammatic Completion, Word Discrimination, and Word Articulation. The data collected from the scores of these tests were computer analyzed to determine correlation coefficients among the variables.

Summary

The degree of relationship among seven language variables and three categories of reading achievement was determined by obtaining from a sample of second graders scores which indicate varying degrees of competence in the language and reading subskills. The scores were obtained by administering The Test of Language Development and The Metropolitan Achievement Test - Primary II, to the sample. Correlation coefficients were determined among the variables.
Chapter IV

Analysis of Data

Purpose

The relationships among several language variables and three categories of reading achievement were investigated in this study. Seven language variables were assessed by administering The Test of Language Development to a sample of thirty second grade students. The language competencies assessed were Picture Vocabulary, Oral Vocabulary, Grammatic Understanding, Sentence Imitation, Grammatic Completion, Word Discrimination, and Word Articulation. The sample was also given the Metropolitan Achievement Test - Primary II to assess Word Knowledge, Word Analysis, and Comprehension. Correlation coefficients were determined among the variables.

Findings and Interpretations

The data were computer analyzed by the 'Interactive Data Analysis' system of programs chained to the control program $IDA at State University College at Brockport, New York. When correlation coefficients
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were computed among the language and reading variables the following results were obtained: (see Table 1)

Table 1

Correlation Coefficients Determined Among
Language and Reading Variables

<table>
<thead>
<tr>
<th>Language Variables</th>
<th>Reading Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture Vocabulary</td>
<td>.3528</td>
</tr>
<tr>
<td>Oral Vocabulary</td>
<td>.1995</td>
</tr>
<tr>
<td>Grammatic Understanding</td>
<td>.3483</td>
</tr>
<tr>
<td>Sentence Imitation</td>
<td>.2875</td>
</tr>
<tr>
<td>Grammatic Completion</td>
<td>.2641</td>
</tr>
<tr>
<td>Word Discrimination</td>
<td>-.0571</td>
</tr>
<tr>
<td>Word Articulation</td>
<td>-.1116</td>
</tr>
</tbody>
</table>

* statistically significant correlation

1. The correlation coefficient between Picture Vocabulary competence and Word Knowledge is .3528.

2. The correlation coefficient between Picture Vocabulary competence and Word Analysis is .2450.

3. The correlation coefficient between Picture
Vocabulary competence and Comprehension is .3740.


5. The correlation coefficient between Oral Vocabulary competence and Word Analysis is .1422.

6. The correlation coefficient between Oral Vocabulary competence and Comprehension is .1846.

7. The correlation coefficient between Grammatic Understanding competence and Word Knowledge is .3483.

8. The correlation coefficient between Grammatic Understanding competence and Word Analysis is .2811.

9. The correlation coefficient between Grammatic Understanding competence and Comprehension is .5380.

10. The correlation coefficient between Sentence Imitation competence and Word Knowledge is .2875.

11. The correlation coefficient between Sentence Imitation competence and Word Analysis is .2154.

12. The correlation coefficient between Sentence Imitation competence and Comprehension is .3303.

13. The correlation coefficient between Grammatic Completion competence and Word Knowledge is .2641.

14. The correlation coefficient between Grammatic Completion competence and Word Analysis is .3310.
15. The correlation coefficient between Grammatic Completion competence and Comprehension is .0839.

16. The correlation coefficient between Word Discrimination competence and Word Knowledge is -.0571.

17. The correlation coefficient between Word Discrimination competence and Word Analysis is -.0992.

18. The correlation coefficient between Word Discrimination competence and Comprehension is .0705.

19. The correlation coefficient between Word Articulation competence and Word Knowledge is -.1116.

20. The correlation coefficient between Word Articulation competence and Word Analysis is -.0934.

21. The correlation coefficient between Word Articulation competence and Comprehension is -.0118.

When the number of a sample is thirty, the correlation coefficient must be .3610 for a significant relationship to exist. When the findings of the statistical analysis of this study are compared to this figure, it is observed that a significant relationship exists between the students' competence in Picture Vocabulary and Reading Comprehension. There is also a significant relationship between the
A correlation coefficient of -.3610 is equal to one of .3610. The only difference is the sign which shows that a negative correlation exists between the variables in the case with the negative coefficient. There are several negative correlations reported through the analysis of the data. These are between Word Discrimination and Word Knowledge, Word Discrimination and Word Analysis, Word Articulation and Word Knowledge, Word Articulation and Word Analysis, and Word Articulation and Comprehension. These negative correlations are not significant, however, as they would have to exceed -.3610 to show significance at the .05 level.

The absence of relationship is designated by a correlation coefficient of .00. Several correlation coefficients determined in this study show almost no relationship between some variables. When both measures in the phonological area of language development, Word Discrimination and Word Articulation, were compared to Word Knowledge, Word Analysis, and Comprehension, almost no relationship was present.
among the variables.

Summary

Correlation coefficients were determined among seven language development variables and three aspects of reading achievement competence. As the relationships were investigated, only two were found to be significant. These were between Picture Vocabulary and Comprehension and between Grammatic Understanding and Comprehension. There were several variables which showed negative correlations. Almost no relationship existed between some of the variables. This investigation found a variety of relationships among language and reading variables.
Chapter V

Conclusions and Implications

Summary

When correlation coefficients were determined among seven language development variables and three aspects of reading achievement, a variety of relationships were ascertained. This investigation found significant relationships between several variables, negative correlations between other variables, and almost no relationship between some variables. A variety of relationships exists among variables of language competence and reading achievement.

Conclusions

This study found a significant relationship between children's competence in picture vocabulary knowledge and their reading comprehension achievement. A significant relationship was also determined between children's grammatic understanding and their reading comprehension achievement.

Several variables showed negative correlations. The phonological aspect of language development was
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the one showing negative correlation to several reading achievement variables. Word discrimination was found to have negative correlation to both word knowledge and word analysis, and almost no relationship to comprehension. Word articulation showed negative correlation to all aspects of reading achievement investigated; word knowledge, word analysis, and reading comprehension.

Other variables had very little relationship between them. There was almost no relationship between grammatic completion competence and comprehension. Comprehension ability was also shown to have very little relationship to word discrimination competence.

Varying degrees of relationship were determined among other variables of reading achievement and language competence. A diversity of relationships among language and reading variables was found in this investigation.

Implications for Classroom Practice

A factor to be considered as implications are discussed is that the existence of a relationship
between two variables does not necessarily imply a causal connection nor does it provide any information about the direction of the causality, should it exist.

Since a significant relationship was found between children's competence in picture vocabulary and their reading comprehension, the classroom teacher should be aware that by improving children's competence in either of these areas, the possibility exists that the other would be affected. There also exists a significant relationship between children's grammatic understanding and their reading comprehension. In the classroom, activities to strengthen either aspect might affect the children's competence in the other area. Until causality and its direction are determined, the classroom teacher would not know which aspects of reading or language, when strengthened, would affect other variables.

**Implications for Future Research**

Research might be conducted to determine existence of causality between related variables. If a causal connection is found, directionality must then
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be determined. These would be the next steps in following up this investigation.

Another interesting and valuable extension of this study would be to replicate the design with a sample or samples of children of grade levels other than second. Interesting comparisons could be made by investigating the relationships among several language variables and various categories of reading achievement at different grade levels. Since language competence follows a certain developmental process, it would be of importance to know what variables are related at various developmental stages.

It would be worthwhile to investigate the difference between the relationship among the variables of reading and language competence when a sample of boys and a sample of girls are compared.

The implications for future research are unlimited. This investigation can be used as a basis for many other studies. It shows varying relationships among aspects of language development and reading achievement and each of these relationships could be examined in greater depth and from different angles.
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It is the expectation of this investigator that this will happen.
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