

1993

## A correlation study between early literacy experience and phonemic awareness in kindergarten children

Christine L. Brooks  
*University of Dayton*

Follow this and additional works at: [https://ecommons.udayton.edu/graduate\\_theses](https://ecommons.udayton.edu/graduate_theses)

---

### Recommended Citation

Brooks, Christine L., "A correlation study between early literacy experience and phonemic awareness in kindergarten children" (1993). *Graduate Theses and Dissertations*. 1758.  
[https://ecommons.udayton.edu/graduate\\_theses/1758](https://ecommons.udayton.edu/graduate_theses/1758)

This Thesis is brought to you for free and open access by the Theses and Dissertations at eCommons. It has been accepted for inclusion in Graduate Theses and Dissertations by an authorized administrator of eCommons. For more information, please contact [mschlangen1@udayton.edu](mailto:mschlangen1@udayton.edu), [ecommons@udayton.edu](mailto:ecommons@udayton.edu).

**A CORRELATION STUDY BETWEEN EARLY LITERACY  
EXPERIENCE AND PHONEMIC AWARENESS  
IN KINDERGARTEN CHILDREN**

**MASTER'S PROJECT**

**Submitted to the School of Education,  
University of Dayton, in Partial Fulfillment  
of the Requirements for the Degree  
Master of Science in Education**

**by**

**Christine L. Brooks**

**School of Education**

**UNIVERSITY OF DAYTON**

**Dayton, Ohio**

**April 1993**

Approved by:

A solid black rectangular box used to redact the signature of the official advisor.

Official Advisor

## TABLE OF CONTENTS

	Page
APPROVAL PAGE .....	ii
CHAPTER	
I. INTRODUCTION TO THE PROBLEM .....	1
Purpose of the Study	
Statement of the Problem	
Hypothesis	
Assumptions	
Limitations	
Definition of Terms	
II. REVIEW OF RELATED LITERATURE .....	4
Effects of Phonemic Awareness Skill	
on Reading Acquisition	
Early Literacy Experience Fosters the	
Development of Phonemic Awareness	
III. PROCEDURES .....	19
Subjects	
Setting	
Data Collection	
IV. RESULTS .....	23
Presentation of Results	
Discussion of the Results	
V. SUMMARY, CONCLUSIONS, RECOMMENDATIONS .....	26
Summary	
Conclusions	
Recommendations	

<b>APPENDICES .....</b>	<b>31</b>
Appendix A: Letter Identification Sheet	
Appendix B: Concepts About Print Score Sheet	
Appendix C: Phoneme Blending (Roswell-Chall)	
Appendix D: Phoneme Segmentation (Yopp-Singer)	
<b>BIBLIOGRAPHY .....</b>	<b>36</b>

## CHAPTER I

### INTRODUCTION TO THE PROBLEM

#### Purpose of the Study

In recent years, extensive research has been published documenting the importance of phonemic awareness for reading acquisition. The ability to manipulate phonemes has proven to be a powerful predictor of reading achievement in first grade (Stanovich, 1984; Lomax, 1987; Juel, 1986) and correlates more highly with reading success than general intelligence tests or language proficiency tests (Stanovich, 1984; Lomax, 1987). Juel (1988) determined that poor readers who entered first grade phonemically unaware were most likely to remain poor readers at the end of fourth grade. This failure to make progress occurred because the lack of phonemic awareness contributed to the retarded development of word recognition skills (Griffith, 1992; Stanovich, 1987; Juel, 1988) and led many researchers to advocate phonemic awareness training.

However, questions remain to be answered about how some kindergarten children have developed the ability to manipulate phonemes while others lack this skill (Wagner & Torgensen, 1988). Adams (1990) suggested that young children who are phonemically aware have discovered a great deal more about reading and its component parts than children who cannot manipulate phonemes. She equated this knowledge of reading to the number of hours of literacy exposure that children had before schooling, hypothesizing that some children may have had over two thousand

hours of exposure while other children had less than two hundred hours. This disparity in exposure to literacy was also documented by Teale (1986) and Wells (1986). Both researchers independently concluded that the amount of preschool literacy exposure significantly impacted on reading acquisition and school success.

This author believes that a direct correlation exists between kindergarten children's ability to manipulate phonemes and their experience with literacy in the preschool years. Mason (1980) found that four year old children who were regularly exposed to books at home developed knowledge about print, letters, and letter-sound correspondence without receiving systematic instruction from their parents or preschool teachers. In other words, phonemic awareness is only one piece of the puzzle that leads to successful reading acquisition (Clay, 1991).

#### Statement of the Problem

The purpose of this study was to determine the correlation between early literacy experience and phonemic awareness skill in kindergarten children.

#### Hypothesis

There will be a positive correlation between the early literacy experience of kindergarten children and their phonemic awareness skill.

#### Assumptions

In order to carry out this study, the author administered the Concepts About Print Test and the Letter Identification Test (Clay, 1979) to assess the children's early literacy experience. It was assumed that these tests reflected the knowledge of literacy that the children had gained in the preschool years (Clay, 1979; Wells, 1986). Two phonemic awareness tests were administered to the children to assess their

ability to manipulate phonemes. These tests were the Roswell-Chall Phoneme Blending Test and the Yopp-Singer Phoneme Segmentation Test. Yopp (1988) found that these tests had reliability coefficients of 0.90 or greater for the kindergarten children she sampled in her study. It was assumed that this study correctly rated the reliability and validity of these phonemic awareness tests.

### Limitations

The author faced some limitations in conducting this study. The sample size of the kindergarten children tested (thirty) was substantially lower than the sample size recommended for a population of one hundred and fifty children. Although the children assessed were selected randomly, the results of this study can only be generalized to the population.

### Definition of Terms

Phoneme refers to the smaller-than-a-syllable speech sound which roughly correlates to individual letters.

Phonemic Awareness has been defined as the ability to examine language independently of meaning and to manipulate its component sounds.

Early Literacy Experience refers to the opportunities that preschool children have had to listen to stories read aloud, experiment with writing, examine books and other printed material, discuss books with adults, etc.



## CHAPTER II

### REVIEW OF RELATED LITERATURE

#### Effects of Phonemic Awareness Skill on Reading Acquisition

During the last ten years, numerous studies have been published which underscore the importance of phonemic awareness ability for successful reading acquisition in first grade. In 1984, Stanovich assessed the phonemic awareness of fifty-eight kindergarten children using ten phonological awareness tasks. He statistically compared the results of these tasks with the Metropolitan Readiness Tests and the Otis-Lennon School Ability Test. At the end of first grade, Stanovich administered the Reading Survey Test of the Metropolitan Achievement Test and statistically compared these results to the scores the children received in kindergarten.

The results of the data confirmed that the scores received on the phonemic awareness tasks correlated significantly with standardized test scores which measured achievement. This correlation with reading achievement led Stanovich to conclude that phonemic awareness tasks could be used as powerful predictors of the speed with which children would acquire reading fluency in first grade. He also found that kindergarten children's ability to manipulate phonemes was a more powerful predictor of first grade reading ability than the IQ scores which were assessed.

In developing and testing a theory of literacy acquisition, Juel (1986) discovered that the ability to manipulate phonemes powerfully influenced a child's ability to learn to read and write in first grade. This phonemic ability influenced the development of word recognition, spelling, reading comprehension, and writing. Like Stanovich (1984), Juel found that phonemic awareness was a more powerful predictor of literacy acquisition than IQ score or general language proficiency. In this study, the analysis of data showed that children did not acquire spelling-sound correspondence knowledge until a prerequisite knowledge of phonemic awareness was reached.

These findings were substantiated by Juel (1988) in a longitudinal study of first and second grade readers. Although she found that there were different phonemic insights to be acquired by children, such as rhyming skill or phoneme segmentation, some phonemic skills such as phoneme blending appeared to be a prerequisite in learning to read and write an alphabetic language. Without developing these necessary skills, Juel found that phonics instruction was not effective and poor decoding skill was the results. Griffith (1992) confirmed these findings and stated that children with high phonemic awareness learned to read well regardless of the method of reading instruction taught in school.

Unfortunately, low phonemic awareness in beginning readers often sets in motion an escalating chain of negative side effects. Both Stanovich (1987) and Juel (1988) detailed the compounding reading difficulties of children who began first grade phonemically unaware. As Juel (1988) stated, "A primary factor that seemed to keep the poor readers from improving was their decoding ability" (p. 441). She

found that poor readers in fourth grade had not achieved the decoding skills that good readers had achieved by the beginning of second grade.

Stanovich (1987) and Juel (1988) found that the negative effects of poor decoding became apparent as early as the middle of first grade. Typically, poor readers read much less text than good readers so they received significantly less practice on a daily basis. Poor readers experienced delays in developing automatic word recognition which negatively effected vocabulary development and further slowed the amount of material read. Also, low readers were often forced to read texts which were too difficult for them, causing them to lose the ability to use context clues and read for meaning.

By the end of second grade, there was also a significant difference in the amount of reading that was done outside of school. This widening gulf in the amount of reading experienced between good and poor readers impacted on academic achievement in general because reading contributes to many language and cognitive skills. Thus, many factors which contribute to reading comprehension, such as general knowledge, vocabulary, and syntactic knowledge, are developed by reading practice. As Stanovich (1987) stated, "The increased reading experiences of children who crack the spelling-to-sound code early thus have important positive feedback effects. Such feedback effects appear to be potent sources of individual differences in academic achievement" (p. 364). Therefore, the student who entered first grade phonemically limited was likely to remain a poor reader throughout his school career.

Since low phonemic awareness negatively affects early reading acquisition, teachers need to be aware of this problem and focus their instruction to better serve

their students. Griffith (1992) provided teachers with several informal diagnostic tools to use in the classroom to determine whether children had developed enough phonemic awareness to progress quickly in early reading. She gave several levels of phonemic awareness tasks because children do not develop this ability all at once. The tasks included for use in diagnosis were rhyming pairs, phoneme blending, phoneme isolation, phoneme segmentation, and phoneme deletion. These tasks were ranked in order of difficulty and should help teachers assess the reading readiness capabilities of their students.

Griffith (1992) also provided many examples of activities that teachers could use to increase their students' phonemic abilities. These recommendations included literature activities which play with the sounds of language, along with extensive writing experiences and explicit instruction in sound segmentation and sound representation heard in words. The author also gave a detailed description of Elkonin Analysis, which may be used to help children hear the sounds in words during writing activities. Griffith (1992) stressed that "phonemic awareness activities will not be helpful to a child unless they can be placed in a context of real reading and writing" (p. 522).

In Beginning to Read, Adams (1990) stressed the importance of reading aloud to children to help them develop phonemic awareness. The texts chosen for reading should be just above the child's own level of linguistic maturity. Also, every effort should be made to actively engage the child's attention in the activity. Open-ended questions about the story should be asked, and the answers that are given should be expanded as much as possible. Time should be taken to reflect on the form, content,

and meaning of the story. Children's curiosity should be fostered and they should be encouraged to examine the print. In creating a literate environment in the school and classroom, the teacher must stress the functional use of written language in a natural way. It is important that the children become engaged in the classroom activities.

Tunmer, Herriman, and Nesdale (1988) published research findings that clearly showed the correlation between phonological awareness and beginning reading. These authors found that at least a minimal amount of phonological awareness was necessary before children could discover the relationship between graphemes and phonemes. As a result, these authors recommended that an intensive program of phonological awareness training should be started with students who lacked this important skill. Providing children with the opportunity to be exposed to all kinds of activities which allowed them to "play" with language was stressed. The authors were especially concerned that instruction in phonological awareness not be delayed until children were ready. They stated that only through direct instruction could the mushrooming effects of reading failure be avoided.

Like Tunmer, Herriman, and Nesdale (1988), Stanovich (1987) also advocated an intensive program of phonological awareness training beginning immediately upon detection of the problem. He concluded from the research that children who entered school with substantial deficits in phonological awareness may potentially be labeled learning disabled at a later time. Stanovich proposed a sequence of compounding difficulties experienced by these children that eventually led to the learning disabilities label and later to a more generalized depression in cognitive functioning

caused by the failure to learn to read successfully. He even hypothesized that these severe deficits in phonemic awareness may be the real area of specific learning disability on school entrance.

According to Stanovich, children with phonemic awareness deficits had difficulty understanding the alphabetic principle. Their lack of understanding resulted in less exposure to reading materials as early as the middle of first grade. These differences in exposure contributed to retardation in developing the rapid, automatic process of visual recognition which is necessary for reading comprehension. Compounding these problems were the resulting negative motivational differences that generally occurred. Stanovich stated that this "slow progress at reading acquisition begins to have more generalized effects: effects on processes that underlie a broader range of tasks and skills than just reading. That is, the initial specific problem may evolve into a more generalized deficit due to the behavioral/cognitive/motivational spinoffs from failure at such a crucial educational task as reading" (p. 389).

#### Early Literacy Experience Fosters the Development of Phonemic Awareness

In recent years, many researchers documented the importance phonemic awareness plays in learning how to read. However, in detailing their findings, researchers often failed to hypothesize how some children gained this phonemic awareness or why others were phonemically undeveloped. Since a significant correlation exists between phonemic awareness and the acquisition of reading skill, other research studies must be investigated to shed light on these questions.

In 1980, Jana Mason researched the letter and word reading competencies of four year old children in an attempt to discover when they begin to read. This developmental study was carried out over a period of nine months and included children who attended two separate classes in a university preschool. The children were from middle class and upper-middle class families and the researcher used parent questionnaires and evaluations of the children to determine growth over the nine month period.

Mason discovered that with parental help and a supportive preschool environment, children developed knowledge about reading in a hierarchical fashion. First, the children developed the ability to recite, recognize, and print letters. Next, signs and labels, especially important words such as names, were recognized. Finally, the researcher discovered that "children begin to extrapolate some of the critical relationships between sounds of words and sounds of letters. This early knowledge of letter sounds, or at least consonant sounds, occurs before any instruction in letter sounds" (p. 221).

In her discussion and summary, Mason carefully stated that the children who took part in her study came from very supportive families and that this study should be replicated with other populations of children. Here, children had parents and teachers who supported their curiosity about letters, printing, sign reading, and reciting stories. They were read to from all types of texts and many of these stories were read repeatedly until they were memorized by the children. Because of this supportive environment, the children were able to gain enough background

knowledge to begin to formulate rules for letter-sound analysis before any direct instruction was given.

Lending support to Mason's theory of a hierarchical model of literacy acquisition was research published in 1987 by Lomax and McGee. In this study, the researchers tested a five component model of literacy acquisition with eighty-one children ranging in ages from three to seven years. The five component model was considered developmental and consisted of concepts about print, graphic awareness, phonemic awareness, grapheme-phoneme correspondence knowledge, and word reading, in that order.

Lomax and McGee found that each of these component parts directly influenced the development of the succeeding component. While children did not have to master one component before awareness of the next one began to appear, knowledge of concepts about print and graphic awareness were found to underlie the subsequent development of phonemic awareness, grapheme-phoneme correspondence, and word reading. Through structural analysis, the researchers found that a direct relationship existed between the concepts about print and grapheme-phoneme correspondence components.

Lomax and McGee asserted in this study that children needed support in their discovery about concepts about print since it appeared to be the construct underlying the developmental model of literacy acquisition which they proposed. However, these researchers were concerned that the children in their study attended nursery school, as did the children in the study conducted by Mason (1980), or elementary school, where they would have been exposed to directed reading-related activities.



They felt that other populations of children needed to be studied to confirm their literacy acquisition model.

In The Meaning Makers, Gordon Wells (1986) lent support to Lomax and McGee's research that concepts about print is the underlying construct for literacy acquisition. Although Wells' longitudinal study focused on how children learned oral language, by using multiple regression analysis, he was able to study differences in the educational achievement of his subjects. He discovered in this analysis that the measure most likely to predict literacy success in school was the Knowledge of Literacy Test developed by Marie Clay (1979). The two measures included in this test were the Concepts About Print Test and the Letter Identification Test.

Wells stated that the reason this test so accurately predicts success in learning to read and write is that books provide a linguistic advantage for a child. Exposure to books gives a child the opportunity to experience the sustained meaning that is developed in written language, meaning that is not dependent on negotiation through talk. The child has the advantage of becoming familiar with the language typically used only in writing, and he learns its rhythms and structures. Also, a child who has been read to often has a richer mental model of the world and an increased vocabulary that he can use in discussions and in writing. Most importantly, Wells found that an exposure to books helps the child discover the symbolic potential of language.

Wells found that the children who scored poorly on the Knowledge of Literacy Test in this study often encountered difficulties in learning to read and write, and that these children most often came from a low socioeconomic background.

Although not deprived of experiences with oral language, these children were what Wells termed "linguistically deprived." They were children who had little contact with literacy in the home and entered school with a poor understanding of the purposes of literacy and little knowledge of how to extract meaning from print. These children were often considered by their teachers to have oral language deficits because the focus in the classroom centered around literacy development rather than oral language development.

Like Wells, Teale (1984) detailed the benefits that exposure to storybook reading has for young children. He stated that "growth into literacy is characterized by a child's development of assumptions and knowledges about written language and attitudes toward reading-writing activities itself" (p. 114). Teale organized this learning into four areas of literacy development, which he felt developed simultaneously and interdependently.

Initially, children must become aware of the fact that print contains meaning and can be used for many different functions in everyday life. Second, Teale stated that children become aware of the skills needed to process written language. These skills include concepts about print, the alphabetic principle of language, and the story structure that is used in written language. The third developmental area is attitudes toward reading. Here, children learn that reading can be a positive and enjoyable experience to be shared with adults. By acting as role models, adults provide the motivation for children to engage in reading-writing activities. Finally, Teale stated that children develop reading strategies as a result of hearing stories. They learn

how to approach different types of texts and develop the ability to make predictions and self-monitor their reading.

In Beginning to Read, Marilyn Jager Adams (1990) reviewed much of the literature that had been published on phonemic awareness. She supported the premise that skill in manipulating phonemes bears a strong relationship to success in reading acquisition. However, she was concerned with the way researchers typically ignored the developmental aspects of reading acquisition and usually divided their subjects into two groups, readers and non-readers. Children were usually placed in the non-reading category based on their inability to read a specific number of words, and it was this strict categorical placement that particularly disturbed Adams. As she stated, "Reading is not an all-or-none skill, any more than letter recognition or phonemic awareness is. The question arises therefore: How much might a 'non-reader,' who has good alphabetic and phonemic skills, know about reading?" (p. 83).

Adams used her son John as an example of just how much a non-reader might know about reading before any formal reading instruction took place. As a middle class preschooler of five, John had experienced over fifteen hundred hours of storybook reading, along with another thousand hours of watching Sesame Street and an equal number of hours playing reading related games. Without direct instruction, but with guidance and encouragement from the adults in his environment, John was already able to recite the alphabet, recognize all the uppercase and many lowercase letters, rhyme words, print a few words, figure out the first letter of many different types of words, invent some spellings, etc. Adams believed John's experiences with

reading were typical of his middle class peers in general. Yet, if selected to participate in phonemic awareness research, John would be categorized as a non-reader who would score very well on the tests and learn to read easily in first grade.

Another area of concern for Adams resided in the nature of the phoneme tests themselves. Phoneme segmentation and phoneme manipulation are the most difficult of the phonemic awareness tasks and yield the strongest correlations with reading acquisition. However, children who have received no formal reading instruction often find these tasks very difficult to accomplish. Also, the tasks that lie within the range of skill for most kindergarten children, phonemic blending and syllable splitting, seemed to depend on emerging word recognition skill and the idea that words are comprised of phonemes. Adams voiced the concern that if these phonemic tasks required some reading skill to perform, the children must have acquired these abilities in the years before school entrance.

This concern was also voiced by Wagner and Torgensen (1987) in their review of the literature on phonological processing. The researchers stated:

On the basis of longitudinal correlational studies, we conclude that phonological awareness plays a causal role in the acquisition of reading skills . . . However the description just given of the causal relations between phonological processing and the acquisition of reading skill is probably incomplete, as it neglects a likely causal role for learning to read in the development of phonological skills. The longitudinal correlational studies we reviewed simply were not designed to determine whether learning to read plays a causal role in the development of phonological abilities (p. 208).

In fact, when Wagner and Torgensen reanalyzed the data from the Lundberg, Olofsson, and Wall (1980) study of phonemic awareness, they found substantial evidence to support this view. By holding constant the reading ability of the children

who participated in the Lundberg study, Wagner and Torgensen found that the predictive correlation of the phonemic awareness measure dropped from 0.45 to 0.06. These findings led Wagner and Torgensen to the conclusion that children's initial differences in phonemic awareness may be the results of initial differences in their knowledge of reading at the time of the testing.

Thus, the findings by Wagner and Torgensen help to support the theories of a hierarchical model of reading acquisition proposed by Mason (1980, 1986) and Lomax and McGee (1987). These researchers found that phonemic awareness skill does not appear before children have developed a conceptual framework for reading and have made discoveries about concepts about print and the alphabetic principle. As Lomax and McGee found in their study:

Grapheme-phoneme correspondence knowledge is developed not only through attention to graphic details in words and awareness of phonemic units. An important finding of the structural analysis was that concepts about print directly as well as indirectly influence grapheme-phoneme correspondence knowledge. Thus developing an understanding of the underlying relationships between written text, oral language and meaning (a dimension of concepts about print) seems to be an important precursor of the development of knowledge about letter-sound relationships (p. 253).

Therefore, before any formal instruction in reading has occurred, it seems evident that children develop their concepts about print by being exposed to literacy in the home.

In his longitudinal study, Wells (1987) also found that young children's theories of literacy began in the home and he related this literacy learning to language learning. He believed the same principles apply to the acquisition of literacy and the acquisition of spoken language. That is, the learning of literacy is

paced by the learner in an attempt to make sense of experience. How children learn literacy is contingent on the adults in their environment and the part they play in motivating and facilitating the children's learning. In other words, with the help of adults, children must make discoveries and develop theories about what reading is before they understand the alphabet or become phonemically aware.

Frank Smith (1988) also equated the process of learning to read with the way children learn oral language. He stated:

No one can teach explicitly the relevant categories, distinctive features, and interrelationships that are involved. Yet children are perfectly capable of solving the problem for themselves provided they have the opportunities to generate and test their own hypotheses and to get appropriate feedback . . . Children easily learn about spoken language when they are involved in its use, when it has the possibility of making sense to them. And in the same way children will try to understand written language by being involved in its use, in situations where it makes sense to them and they can generate and test hypotheses (p. 199).

Additionally, Smith felt that learning the alphabet, the sounds of the letters, and sight vocabularies are by-products of reading, and that it serves no purpose to labor over these skills which develop easily as reading experience increases.

Consequently, phonemic awareness skill might only be one piece of the puzzle that leads to successful reading acquisition (Clay, 1991). Children who have had little experience with literacy before entering school would potentially have a very difficult time performing phonemic awareness tasks if the developmental theory of reading acquisition is believed. As Teale (1986) found in his study of twenty-four San Diego families, the amount of time that children were exposed to literacy can vary by hundreds of hours per year. And, it would be irresponsible to equate the child who came to school with two hundred hours of literacy experience with the child who had

received three thousand hours of literacy experience (Adams, 1990). Reasonably, it might be expected that the skill children demonstrate on phonemic awareness tasks would be directly related to their exposure to literacy at home.

## CHAPTER III

### PROCEDURES

#### Subjects

The subjects of this study consisted of thirty kindergarten children who were randomly selected from a population of one hundred and fifty students. The students were drawn from the classrooms of three different teachers.

#### Setting

School. The building was located in a very large suburban school district and housed approximately eight hundred and fifty students. Children attended the school from kindergarten through the fifth grade. The racial mix of the student population was approximately ninety percent Caucasian and ten percent minority. The socioeconomic status of the school population was largely middle class and lower-middle class. However, there was often a large turnover in students attending the school each year.

Community. The school system was part of a suburban community, located outside of a large metropolitan city in the midwest. The district had a diverse socioeconomic population and the schools in the district reflected this mix. In recent years, the community has grown rapidly and this created a great deal of pressure on the schools of the district to house the expanding number of students.



## Data Collection

Construction of the Data Collecting Instrument. Two tests designed by Marie Clay (Concepts About Print Test and the Letter Identification Test) were used to assess the kindergarten children's early literacy experience (Clay, 1979). These tests have normalized scores and stanine groups. The Concepts About Print Test has a reliability of 0.95, test-retest reliability coefficients of 0.73–0.89, and corrected split-half coefficients of 0.84–0.88. The validity of the test has been correlated with the Word Reading Test at 0.79. The Letter Identification Test has a split-half reliability at 0.97. The validity of the Letter Identification Test has been correlated with the Word Reading Test at 0.85. Forms developed by Dr. Clay were used to score the tests (Appendix A).

Two phonemic awareness tests were administered to the kindergarten children. These tests were the Roswell-Chall Phoneme Blending Test and the Yopp-Singer Phoneme Segmentation Test. Yopp (1988) found that these two tests had reliability coefficients of 0.90 or greater for the kindergarten children she sampled in her study. Construct validity was determined by Yopp as well as the predictive validity of the phoneme segmentation test developed by Yopp-Singer ( $r = .67$ ). Forms were developed to notate the scores of the tests (Appendix B).

Administration of the Data Collection Instrument. The researcher administered all tests to the kindergarten children on an individual basis. Two sittings, taking approximately fifteen minutes each, were needed to complete the testing. The Concepts About Print Test and the Letter Identification Test were

administered together in the initial sitting. The Yopp-Singer Phoneme Segmentation Test and the Roswell-Chall Phoneme Blending Test were given in the second sitting.

Letter Identification Test. This test included all uppercase and lowercase letters along with the script "a" and "g." The students were asked to identify each letter by name. However, they received credit for a correct response if they could give the sound the letter made or name a word that started with the letter. A total score of fifty-four was possible and the test took approximately five minutes to administer (Clay, 1979) (Appendix A).

Concepts About Print Test. In order to assess the children's concepts about print, they were asked to help the tester while a story was read. During the course of the story, the children were asked to respond to questions about print, directionality, words, etc. The children could receive a total score of twenty-four. The test took about ten minutes to administer (Clay, 1979) (Appendix B).

Roswell-Chall Phoneme Blending Test. This test was designed to assess children's ability to blend isolated sounds into words. The test contained three sections consisting of ten items each. The sections became progressively more difficult. The first section consisted of words containing two phonemes (e.g., ea-t). The second section contained three or four phoneme words divided into two parts (e.g., p-ig, tr-ap). Finally, the third section contained words with three or four phonemes which were divided into three parts (e.g., s-o-me, l-i-on).

The children were asked to tell what word they would have if the sounds spoken by the tester were put together. Three examples were given, m-e, d-og, f-i-t. The sounds were spoken at approximately half-second intervals. A total score

of thirty was possible and the test took between five and ten minutes to administer (Yopp, 1988) (Appendix C).

Yopp-Singer Phoneme Segmentation Test. This test was designed to assess how well children could articulate the individual sounds in words in order. The directions given were as follows:

Today we're going to play a word game. I'm going to say a word, and I want you to break the word apart. You are going to tell me each sound in the word in order. For example, if I say old, you will say o-l-d. Let's try a few words together (Yopp, 1988).

Three other examples were given to the children (ride, go, man). During the test, if the child responded correctly, the tester nodded. If they responded incorrectly, the tester corrected the response. The test took approximately five to ten minutes to administer and a score of twenty-two was possible (Yopp, 1988) (Appendix D).

The scores from the Letter Identification Test and the Concepts About Print Test, which determined the children's early literacy experience, were correlated with the scores from the two phoneme tests. A positive correlation between these two areas would reflect the importance of early literacy experience on phonemic awareness.

## CHAPTER IV

### RESULTS

#### Presentation of Results

After administering the Concepts About Print Test and the Letter Identification Test to determine the kindergarten children's early literacy experience, these combined scores were correlated with the combined scores received on the Yopp-Singer Phoneme Segmentation Test and the Roswell-Chall Phoneme Blending Test. To determine the correlation between early literacy experience and phonemic awareness, the author used the Pearson Product Moment Correlation Coefficient. The results of this analysis indicated that a positive correlation of .95 appeared to exist between early literacy experience and phonemic awareness skill.

#### Discussion of the Results

Although a positive correlation of .95 appears to exist between early literacy experience and phonemic awareness, there were limitations to this study. First, the sample size of the kindergarten children tested (thirty) was substantially smaller than the sample size recommended for a population of one hundred and fifty children. Second, the results of this study can only be generalized to the population from which the children were randomly selected. Finally, it was assumed that the two tests used to assess early literacy experience (Concepts About Print Test and the Letter Identification Test) accurately reflected the children's knowledge about literacy.

In general, there was a wide variation in the scores the kindergarten children received on both sets of tests. Children who were incapable of naming many letters of the alphabet and knew little about print concepts found the phonemic awareness tasks very difficult. On the other hand, children who demonstrated knowledge of one-to-one correspondence on the Concepts About Print Test, as well as the ability to locate isolated words, were able to perform the phonemic awareness tasks with relative ease. There was some indication that the speed in which the children could identify the letters of the alphabet also reflected their knowledge of phonemes. However, this relationship would be an area for future research.

On the whole, most of the kindergarten children found the phoneme blending test much easier to accomplish than the phoneme segmentation test. This finding was supported by Adams (1990) when she found that phonemic blending tasks seemed to signal emerging word recognition skills; while "the phonemic segmentation tasks require not only that the child have a thorough understanding that words can be completely analyzed into a series of phonemes but further that she or he be able to analyze them, completely and on demand" (p. 199 ). Although phoneme segmentation was found to correlate very strongly with success in beginning reading, Adams found that children who lacked formal reading instruction had difficulty performing these tasks.

Finally, it appears that the high correlation between early literacy experience and phonemic awareness found in this study (.95) may be a reflection of the early literacy backgrounds of the children who were tested. Since formal reading instruction had not been received by the children, their skill in manipulating

phonemes had to come from some source. Mason (1986) suggested that "children progress first through a context-dependent level of acquaintance with print before moving into the second level in which they begin to apply phonetic analysis" (p. 112). Therefore, it seems reasonable to assume that the children who could manipulate phonemes in this study had received enough literacy experience at home to promote phonemic awareness skills.

## CHAPTER V

### SUMMARY, CONCLUSIONS, RECOMMENDATIONS

#### Summary

The purpose of this study was to determine the correlation between early literacy experience and phonemic awareness skill in kindergarten children. In recent years, extensive research has indicated the importance phonemic awareness plays in successful reading acquisition (Stanovich, 1984; Juel, 1986, 1988; Griffith, 1992). Yet, questions remained to be answered about how some children were able to gain phonemic awareness and others were not (Wagner & Torgensen, 1988).

Adams (1990) suggested that young children who are phonemically aware have discovered a great deal more about reading and its component parts than children who cannot manipulate phonemes. She equated this knowledge of reading to the number of hours of literacy exposure that children had before schooling. Also, Mason (1980) found that four year old children who were regularly exposed to books at home developed knowledge about print, letters, and letter-sound correspondence without receiving systematic instruction from their parents or preschool teachers.

After reviewing the literature, this researcher felt that phonemic awareness, although extremely important for reading acquisition, did not precede other areas of reading knowledge. Rather, it was acquired by children only after they had received sufficient exposure to early literacy activities. This belief led the researcher to

hypothesize that a positive correlation would exist between the early literacy experience of kindergarten children and their phonemic awareness skill.

In order to determine the early literacy experience of the kindergarten children tested in this study, the researcher chose to administer the Concepts About Print Test and the Letter Identification Test (Clay, 1979). The scores received on these tests were correlated with the scores received on the Roswell-Chall Phoneme Blending Test and the Yopp-Singer Phoneme Segmentation Test (Yopp, 1988). The tests were administered individually to thirty randomly selected kindergarten children. The testing involved two sittings, each lasting approximately fifteen minutes.

In order to determine the correlation between early literacy experience and phonemic awareness, the researcher analyzed the data using the Pearson Product Moment Correlation Coefficient. A positive correlation of .95 was found to exist in this study between early literacy experience and phonemic awareness in kindergarten children.

### Conclusions

Although this study contains limitations due to the sample size (thirty) of the children tested, it appears reasonable to suggest that a correlation may exist between the amount of early literacy experience children have had and their ability to manipulate phonemes. Thus, phonemic awareness appears to be only one piece of the puzzle that leads to successful reading acquisition (Clay, 1991).

### Recommendations

Since it appears that a correlation exists between children's early literacy experience and their ability to develop phonemic awareness, several



recommendations can be made for the teachers of kindergarten and first grade children. As Marie Clay states in Becoming Literate (1991):

What children have already learned about literacy is the springboard from which they dive into school's instruction. What the child has already learned about literacy in the preschool years determines what the child can respond to in the school's program. Children are not moving to a point in time when they can suddenly take aboard reading and writing (which is what the old idea of "readiness" suggested); each child is slowly and gradually adding to what literacy concepts and behaviors they bring to school. There is, then, no point in waiting — for maturation, for informal learning, or for the child to get to where the teacher wants to start. The best way to get a process of cumulative learning underway is for the teacher to go to where the child is and help the child to build some kind of useful interactions with books, print and writing, whatever his starting point (p. 203).

Therefore, it is important that the teacher of kindergarten and first grade children accurately assess the competencies of his/her students and provide an environment that is rich in meaningful literacy activities.

It is necessary for the teacher to understand that skill in manipulating phonemes does not develop in a vacuum but, rather, is the end result of countless hours of exposure to all forms of literacy. A classroom environment where children are immersed in hearing stories and poems is a prerequisite. Children's curiosity about print should be fostered and they should be encouraged to examine the print. Gordon Wells (1986) suggested that children who have been deprived of hearing stories in the preschool years should be given extensive opportunities to read with adults on an individual or small group basis to help overcome this deficit in experience. He felt that teachers could enlist the aid of adults in the community or parent volunteers to read to children in the classroom.

As Griffith (1992) suggested, extensive writing experiences should be provided so children have an opportunity to examine print more closely and gain control of literacy concepts. The teacher may want to introduce children to Elkonin Analysis to help them hear the sounds in words during writing activities. Marie Clay suggested that writing activities may be the initial way in which children are exposed to a more detailed analysis of print. She stated that writing provides children with the opportunity to "attend very closely to features of letters; construct his own words, letter by letter; direct attention to spatial concepts; work within the order and sequence constraints of print; break down the task to its smallest segments while at the time synthesizing them into words and sentences; engage in his own form of segmenting sounds in words in order to write them" (1991, p. 109).

If the consequences of reading failure are to be avoided (Stanovich, 1987; Juel, 1986, 1988), children need to become phonemically aware as early as possible in their school experience. Yet, simply teaching phonemic skills does not appear to guarantee reading success. Mason (1980) and Lomax and McGee (1987) suggested that reading skills develop in a hierarchical fashion as children construct and try out their tentative hypotheses about words, letters, and sounds. Therefore, children need a supportive school environment which engages them in the types of literacy activities that will encourage them to formulate and test out their hypotheses about literacy. As Mason (1980) stated about her theory of a hierarchy of literacy acquisition:

The third level is marked by an organized and effective utilization of letter-sound knowledge to identify words in or out of context. This means that rules for deploying letter-sounds, whether implicitly or explicitly understood, are being acquired. However, even this is not a static level. Many rules must be acquired about our phonology.

Therefore, children will continue for several years to vary in their awareness of linguistic patterns (p. 223).

Thus, teachers may be able to view a child's lack of phonemic awareness as a guide to program planning. If successful reading acquisition is to occur, teachers must provide literacy experiences appropriate for developing reading concepts.

## **APPENDICES**



TEST #3

# APPENDIX B CONCEPTS ABOUT PRINT SCORE SHEET

Date: \_\_\_\_\_ Stones: \_\_\_\_\_ Sand: \_\_\_\_\_

TEST SCORE

/24

Name: \_\_\_\_\_ School: \_\_\_\_\_

Recorder: \_\_\_\_\_ Classroom Teacher: \_\_\_\_\_

Use the script when administering this test.

Scoring: ✓ (Checkmark) correct response. ● (Dot) Incorrect response.

PAGE	SCORE	ITEM	COMMENT
Cover		1. Front of book	
2/3		2. Print contains message	
4/5		3. Where to start 4. Which way to go 5. Return sweep to left 6. Word by word matching	
6		7. First and last concept	
7		8. Bottom of picture	
8/9		9. Begin 'The' (Sand) or 'I' (Stones) bottom line, top OR turn book	
10/11		10. Line order altered	
12/13		11. Left page before right 12. One change in word order 13. One change in letter order	
14/15		14. One change in letter order 15. Meaning of ?	
16/17		16. Meaning of period/full stop 17. Meaning of comma 18. Meaning of quotation marks 19. Locate M m H h (Sand) OR Tt Bb (Stones)	
18/19		20. Reversible words was, no	
20		21. One letter: two letters 22. One word: two words 23. First and last letter of word 24. Capital letter	

## APPENDIX C

## PHONEME BLENDING (ROSWELL-CHALL)

**DIRECTIONS:** Today we're going to play a word game. I am going to say a word that is broken apart, and you tell me what word you have when you put the sounds together. For example, if I say m-e, what word would you have? Let's try a few words together. Examples: d-o-g, f-i-t.

1. _____ a-t	1. _____ m-ore	1. _____ r-i-de
2. _____ s-ee	2. _____ p-ig	2. _____ f-i-ll
3. _____ o-n	3. _____ st-ep	3. _____ l-oo-k
4. _____ c-ow	4. _____ pl-ay	4. _____ c-a-t
5. _____ j-ar	5. _____ b-us	5. _____ l-i-on
6. _____ t-oe	6. _____ m-et	6. _____ m-a-n
7. _____ i-s	7. _____ c-ap	7. _____ s-o-me
8. _____ d-o	8. _____ d-ad	8. _____ h-a-m
9. _____ ea-t	9. _____ l-ight	9. _____ r-i-pe
10. _____ m-y	10. _____ tr-ap	10. _____ m-a-ke
_____ 10	_____ 10	_____ 10

SCORE ONLY WORDS CORRECTLY BLENDED

\_\_\_\_\_ TOTAL SCORE

## APPENDIX D

## PHONEME SEGMENTATION (YOPP-SINGER)

**DIRECTIONS:** Today we're going to play a word game. I'm going to say a word, and I want you to break the word apart. You are going to tell me each sound in the word in order. For example, if I say old, you will say o-l-d. Let's try a few words together. Examples: ride, go, and man.

_____ dog	_____ lay	_____ keep	_____ race
_____ fine	_____ zoo	_____ no	_____ three
_____ she	_____ job	_____ wave	_____ in
_____ grew	_____ ice	_____ that	_____ at
_____ red	_____ top	_____ me	_____ by
_____ sat	_____ do		

SCORE ONLY WORDS CORRECTLY SEGMENTED.

\_\_\_\_\_ TOTAL SCORE



## BIBLIOGRAPHY

- Adams, Marilyn Jager (1990). Beginning to read: Thinking and learning about Print. Cambridge, MA: The MIT Press.
- Clay, Marie M. (1991). Becoming literate. Auckland, New Zealand: Heinemann Education.
- Clay, Marie M. (1979). The early detection of reading difficulties: A diagnostic survey with recovery procedures (2nd ed.). Exeter, NH: Heinemann.
- Griffith, Priscilla L., & Olson, Mary M. (1992). Phonemic awareness helps beginning readers break the code. The Reading Teacher, 45, 516-523.
- Juel, Connie, Griffith, Priscilla, & Gough, Philip B. (1986). Acquisition of literacy: A longitudinal study of children in first and second grade. Journal of Educational Psychology, 78, 243-255.
- Lomax, Richard G., & McGee, Lea M. (1987). Young children's concepts about print and reading: Toward a model of word reading acquisition. Reading Research Quarterly, 22, 237-256.
- Mason, Jana M. (1980). When do children begin to read: An exploration of four year old children's letter and word reading competencies. Reading Research Quarterly, 15, 203-227.
- McCormick, Christine E., & Mason, Jana M. (1986). Intervention procedures for increasing preschool children's interest in and knowledge about reading. In W. H. Teale & E. Sulzby (Eds.), Emergent Literacy: Writing and Reading. Norwood, NJ: Ablex Publishing Corp.
- Smith, Frank (1988). Understanding reading. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Stanovich, Keith E. (1987). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. Reading Research Quarterly, 21, 360-406.

- Stanovich, Keith E. (1984). Assessing phonological awareness in kindergarten children: Issues of task comparability. Journal of Experimental Child Psychology, 38, 175-190.
- Taylor, Denny (1983). Family literacy: Young children learning to read and write. Portsmouth: Heinemann Educational Books.
- Teale, William H. (1984). Home background and young children's literacy background. In W. H. Teale and E. Sulzby (Eds.), Emergent literacy: Writing and Reading. Exeter, London: Heinemann Educational Books.
- Tunmer, William E., Herriman, Michael L., & Nesdale, Andrew R. (1988). Metalinguistic abilities and beginning reading. Reading Research Quarterly, 23, 134-157.
- Wagner, Richard, & Torgensen, Joseph (1987). The nature of phonological processing and its causal role in the acquisition of reading skill. Psychological Bulletin, 101, 192-212.
- Wells, Gordon (1986). The meaning makers. Portsmouth: Heinemann Educational Books.
- Yopp, Hallie (1988). The validity and reliability of phonemic awareness tests. Reading Research Quarterly, 23, 153-159.

R009607334