2004

# The Effects of Reading Readiness And Student Achievement in the Primary Grades Through The Use of Phonemic Awareness

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# THE EFFECTS OF READING READINESS AND STUDENT ACHIEVEMENT IN THE PRIMARY GRADES THROUGH THE USE OF PHONEMIC AWARENESS

**A Research Project Presented to The Graduate Faculty of the Department of Occupational and Technical Studies**
**Old Dominion University**

**In Partial Fulfillment of the Requirements for the Masters of Science in Occupational and Technical Studies**

**By**

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**March 2004**

**SIGNATURE PAGE**

Curtis Aldric Stanley Campbell prepared this research project under the direction of Dr. John M. Ritz in OTED 636, Problems in Occupational and Technical Studies, at Old Dominion University. It was submitted to the Graduate Program Director as partial fulfillment of the requirements for the degree of Master of Science in Occupational and Technical Studies.

Approved by: John M. Ritz Date: 4-2-04

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## ACKNOWLEDGEMENT

I would like to acknowledge and thank all the people who provided the support and assistance I needed to complete this research paper. I would like to first thank my wife Karla, for her continued support and motivation. If it were not for her confidence in me, I would not have had the conviction to begin my journey in pursuit of a college education many years ago. She continued to provide support and encouragement even after I was diagnosed with cancer early last year.

My doctor even advised me to take it easy and not burden myself with college courses due to the regiment of chemotherapy and radiation treatments. Since starting chemotherapy I've had problems with memory and concentration. I just found out that it is coined, "chemo brain" or "chemo fog", since chemotherapy has an impact on memory and mental sharpness during the course of treatment, and even thereafter.

Through it all, my wife continued to encourage me, and at times had to drive me to classes and helped me study for exams. She did all this while providing care for my illness, working a full time job and taking care of our three children. I could not and would not have been able to accomplish this without her. To borrow a few lines from Barry White, she is my first, my last, my everything and the answer to all my dreams; she's my sun, my moon, my guiding star; she's my first, my last, my everything.

I would also like to thank my mother for guiding and supporting me and always believing that I could accomplish anything. The strength she showed by completing her college degree at the age of 50, demonstrated that if she could do it, I could do it also.

To all my family and friends who provided support during the most difficult time in my life, I thank you for caring so much. I would like to give a special thanks to Patsy

Ann Puifory for the idea behind this research as well as assisting with compiling the data. Thank you, and I hope you continue to be an excellent teacher that will always positively shape the lives of our children. Thanks to Curtis Lane, principal at Deep Creek Elementary, for giving me permission to obtain the data. To my co-workers who worked the extra hours and took on extra assignments to make up for all my absenteeism, I really appreciate it. Thank you.

To a fantastic doctor, Dr. Jon Hopkins, who was very accommodating to all my many questions and did a wonderful job of reassuring me throughout this ordeal. Battling pain and fatigue became the norm and I was fairly immobile for 4 to 5 days after treatment. The most difficult part of chemo treatments for me was not the effect from the drug, but the psychological struggle of having to go back for more treatment just when you start feeling well again. If it weren't for the wonderful doctors and nurses, I don't think I would have made it through this difficult struggle. For all your help, kindness, and support, I thank you all truly from the bottom of my heart.

Thanks to the faculty and staff at Old Dominion University for a great learning experience. The support and guidance provided by Dr. Ritz in helping me complete this research paper was monumental. His patience in helping me stay on track in view of the fact that at times I was behind in turning in assignments is greatly appreciated.

Curtis A. S. Campbell

# CHAPTER I

## INTRODUCTION

One of the most difficult challenges teachers face today is working with students who are having difficulty in reading. Most students who have difficulty in reading are also at-risk in academic achievement. Research has proven that phonemic awareness has been shown to be a powerful predictor of later reading success. Griffeth states "poor readers who enter first grade phonemically unaware are very likely to remain poor readers at the end of fourth grade, since their lack of phonemic awareness contributes to their slow acquisition of word recognition skills" (Griffeth & Olson, 1992, p. 519).

Lyon (1998) alleges that children who do not learn sound awareness "just don't make it, they don't make it in school and they don't make it in life. It is extremely important and it is not something that you can pick-up" (p. 256). Also, according to Wattenberg (1998), 50% or more students can easily master phonemic awareness and phonics that are the first two components of learning to read. For the remaining students, explicit instruction in those components is necessary or they will be put at a distinct and permanent educational disadvantage by the end of third grade.

With phonemic awareness being so critical to learning to read and write an alphabetic script, it is important to include instruction in phonemic awareness since so many children lack this necessary skill. Based on research, it shows that phonemic awareness can be taught, and according to Ball and Blachman (1991) doing so will significantly accelerate student's subsequent reading and writing achievement.

This study was designed to show improvement of reading readiness through the use of phonemic awareness. Data reviewed revealed that students entering first grade

demonstrated a lack of transfer of letter and sound recognition. Analysis of related literature (Griffeth & Olson, 1992) revealed that students show a lack of skills related to the areas of reading readiness.

## STATEMENT OF THE PROBLEM

The problem of the study was to determine the effects that reading readiness, such as phonemic awareness, alphabet knowledge, concept of word, and letter-sound knowledge, and the relationship it has on student achievement on the Phonological Awareness Literacy Screening (PALS) Test on a kindergarten class at Deep Creek Central Elementary School in Chesapeake.

## HYPOTHESES

The following hypothesis was developed to guide this study:

$H_1$: Students in a kindergarten elementary classroom, that receive additional instruction on factors that influence word learning, such as phonemic awareness, alphabet knowledge, concept of word, and letter-sound knowledge, will score higher on the Phonological Awareness Literacy Screening (PALS) Test.

## BACKGROUND AND SIGNIFICANCE

Literacy is the anchor of learning, it is the skill that grounds all school achievement, and for most people, lifetime success. The ability to recognize letters is essential in learning to read, but in one study (Griffeth & Olson, 1992), 33 percent of children entering kindergarten, one new kindergartner in three were not proficient in recognizing letters. More than half of the beginning kindergartners considered at risks of school failure because of low family income and low parent education could identify only two or three letters of the alphabet.

Kindergarten is traditionally regarded as the time to develop children's reading readiness skills. But many children either miss this essential step or, for one reason or another, were unable to take advantage of such instruction when they were in kindergarten. Early attention to reading skills is critical, because most reading problems among teens can be avoided in the early years of childhood.

Because of the continually high rate of students who are failing in reading in the primary grades requiring some students to repeat a grade, educators are beginning to look at the child before grade one. This study is designed to yield evidence that will substantiate or negate students receiving adequate classroom materials possess characteristics associated with the facilitation or enhancement of literacy development in the classroom to succeed in the primary grades.

As a parent with a child who has problems reading, and as a perspective teacher, the researcher would like to know if the students are receiving appropriate instructions in the kindergarten. The researcher believes that if students receive phonemic awareness instruction in their kindergarten grade, this may reduce the number of students that are being referred for remedial services in reading.

In order to understand the literacy problem, one must understand the importance of multi-sensory learning and phonemic awareness, the difference between phonics and phonetics and implicit and explicit phonics, how reading is taught today, and why there are so many children who are said to have learning disorders (Haws, 1997; Uhry & Sheppard, 1993; Yopp, 1992). Evidence for the existence of the problem includes teacher observations, results of reading tests, teacher made tests, and parent's comments.

Researchers agree that before children can make any sense of the alphabetic principle, they must understand that those sounds that are paired with the letters are one and the same as the sounds of speech. Although a number of different types of linguistic awareness are, in one way or another, presupposed in the dialogues and activities of beginning reading instruction, preschool-age children's awareness of phonemes of the speech sounds that correspond roughly to individual letters has been shown to hold singular predictive power, statistically accounting for as much as 50% of the variance in their reading proficiency at the end of first grade (Blachman, 1991; Juel, 1991; Stanovich, 1986). Furthermore, faced with an alphabetic script, a child's level of phonemic awareness on entering school is widely held to be the strongest single most determinant of the successes that she or he will experience in learning to read or, conversely, the likelihood that she or he will fail (Adams, 1990; Stanovich, 1986).

Reading readiness is a key factor in facilitating any learner in learning to read (Marlow, 2000). To overcome these problems and assist students in learning to read well, this study examined whether instruction in phonemic awareness strategies used in conjunction with the already exiting whole language program can increase the effects of reading readiness and student achievement in the primary grades (Haws, 1997).

It has been shown that teachers, who expose their students to alphabetic script when they enter school, have an increased level of phonemic awareness, which is the strongest single determinant of the success that the student will experience in learning to read (Adams & Stanovich, 1998).

## LIMITATIONS

The following limitations were followed during this study:

1. Only a representation of the students in two classes at Deep Creek Central Elementary School will be studied.
2. The experimental and control groups were not taught by the researcher.
3. It is not known if the selected students received additional instructions from parents at home.

## ASSUMPTIONS

This study was based upon the following assumptions:

1. The instructional materials and training resources were identical for both groups of students.
2. The study population was ethnically diverse and are from a wide range of socioeconomic backgrounds.
3. The classrooms were equipped with appropriate training aids and school supplies.
4. The same evaluations were used for both groups of students.

## PROCEDURES

The population will be restricted to student's who were identified from the Phonological Awareness Literacy Screening (PALS) test as students requiring additional instructions. All of the participants will be selected from two kindergarten classes. There will be a total of 10 students. In order to determine how children's growth in reading will be assessed, in April the students will receive a post-test to measure their progress.

The population of the school reflects a wide range of socioeconomic backgrounds: impoverished homes served by welfare through upper-middle class

professional homes. The school is comprised of 62% European, 35% African-American, 1% Latino, 2% other, and is located in Chesapeake, Virginia.

The kindergarten students will be assessed on factors that influence word learning, including phonemic awareness, alphabet knowledge, word recall, recognizing letters in name, and letter recognition. Students will also be assessed on their ability to read both words on a standardized measure and words in which they will receive direct instruction in the classroom. During the month of April students will be given a Phonological Awareness Literacy Screening (PALS) post-test to determine their reading achievement.

The researcher will collect the data from the pre-and post-test by the students of the control group and experimental group, and compare these scores to determine if there was an improvement in their reading skills and its implication at the primary grades.

## DEFINITION OF TERMS

The following terms are clarified to assist with this research:

Phonemic awareness: is the awareness that speech is composed of a series of individual sounds or phonemes used to form spoken words.

Reading Readiness: readiness can be characterized as a recurring theoretical and practical tug between two primary concepts: readiness to learn and readiness for school.

Whole Word Discrimination: The ability to hear likeness and differences of word pairs.

Rhyming: The ability to hear, identify, and match similar word pattern. The uses of both auditory and visual learning devices (e.g., chants, songs, and pictures cards) help children focus on and compare sound patterns. The goal is to help children develop stronger auditory discrimination and awareness.

Rhyming Word Application: The ability to hear, identify, and produce similar word patterns. The goal is for the child to be able to create new words from a consonant-vowel-consonant (C-V-C) word.

## OVERVIEW OF CHAPTERS

This study sought to determine if reading readiness is a key factor in facilitating any learner in learning to read. To assist students in learning to read well, this study examined whether instruction in phonemic awareness strategies used in conjunction with the already exiting whole language program can increase the effects of reading readiness and student achievement in the primary grades. Chapter I of this study explained the researcher's belief and a brief discussion of the background and significance of the problem. The procedures for conducting the study, as well as the limitations and assumptions that must be acknowledged when analyzing this study are presented. Additionally, a list of terms used throughout the study and their definition are provided for clarity.

The following chapter of this study will include a review of literature upon which the researcher based this study. Additionally, the methodology and procedures for collecting the data and the analysis process along with the researcher's findings will be discussed in Chapters III and IV. Finally, in Chapter V, the researcher will provide a summary as well as a conclusion and recommendation for this study.

# CHAPTER II

## REVIEW OF LITERATURE

The purpose of this research study was to examine the effectiveness of a project to increase Reading Readiness Skills through the use of Phonemic Awareness. To achieve this topic, the researcher collected and analyzed information about phonemic awareness and how it has shown to be a powerful predictor of later reading success. The review of literature has also shown that students who do not develop basic phonemic awareness, letter recognition, and the ability to decode words quickly will have difficulty learning to read.

This chapter has individual sections that discuss previous research showing problems associated with reading, the basic principles of Phonemic Awareness, factors that influence word learning, such as phonemic awareness, alphabet knowledge, concept of word, and letter-sound knowledge and how it can improve reading readiness in kindergarten students.

## PROBLEMS ASSOCIATED IN READING

Problems in reading constitute the majority of referrals for learning difficulties. The reasons are varied why some students do not thrive in school, but without basic literacy skills, children cannot excel. Many students with poor reading skills suffer low self-esteem, break school rules, and are unlikely to graduate from high school (Juel, 1996). Illiterate adults account for 75% of the unemployed, 33% of mothers receiving aid to families with dependent children, and 60% of prison inmates (Adams, 1991).

Given the importance of reading failure, researchers wishing to make a difference in the lives of students and teachers must develop instructional methods that are both

effective and practical for classroom use. Teachers are faced with the difficult task of helping at-risk readers develop critical early reading skills before they experience serious failure. Torgensen (1998, p. 35) reported, "One of the most compelling findings from recent reading research is that children who get off to a poor start in reading rarely catch up. In the articles reviewed, several studies on recent reading research provide a solution strategy for working with at-risk readers.

## PHONEMIC AWARENESS

Research has shown that phonemic awareness is an important element and that there is evidence that relates phonemic awareness to reading and spelling success (Yopp, 1995). Adams (1995) concluded that children who fail to acquire phonemic awareness are severely handicapped in their ability to master print. Most importantly, phonemic awareness tasks are the best predictors of the ease of early reading acquisition better than anything else that we know of, including IQ (Stanovich, 1995)

The children who fall behind are destined to be poor readers at the end of elementary school almost invariably and have difficulties understanding and applying the alphabetic principle in deciphering unfamiliar words (Torgensen, 1998). These children find it difficult to use regular patterns in words as an aide to identify new words. As children become older, the difficulty in rapid word recognition limits their comprehension because they spend too much time on trying to identify the words.

With evidence pointing toward the importance of phonemic awareness as a necessary prerequisite for reading success, many researchers are advising teachers to include phonemic awareness activities in their curriculum. In the past, kindergarten was a child's initial school experience; its focus was on the child's social adjustment to school.

Kindergarten was usually a half-day program whose curriculum and activities were separate from the rest of the school, and whose purpose was to prepare the child for first grade. Now kindergarten is an integral part of the elementary school's curriculum and the focus has shifted from social to cognitive or academic. This is the time when phonemic awareness should be introduced.

## ALPHABET KNOWLEDGE

Adams and Stanovich (1998) found that when faced with the alphabetic script, upon entering school a child's level of phonemic awareness is the strongest single determinant of the success that she or he will experience in learning to read or the likelihood that she or he will fail. Research provides evidence that children must become very familiar with the alphabetic principle and spelling-sound correspondences in order to be able to read fluently and comprehend what they read (Adams & Stanovich, 1998). Teachers working with children come to realize that knowledge of letters alone is not adequate for successful decoding.

According to Busink (1997), children first have to realize that words can be sounded in order to apply the alphabetic principle. Many young children have not developed the awareness that spoken words have sound structures. Awareness of word's sound structure often does not come automatically.

What we know about reading and language begins with a simple observation made by the noted speech scientist Alvin M. Liberman, who has long argued that reading is dependent on language but is not a natural outgrowth of language. As Liberman recently observed: (Liberman, 1997, pp, 4-5)

> A proper theory of speech is essential to an understanding of how people read—the most relevant consideration arises out of the deep biological gulf that separates the

> two processes. Speech, on the one side, is a product of biological evolution, standing as the most obvious, and arguably the most important, of our species-typical behaviors. Reading/writing, on the other, did not evolve biologically, but rather developed (in some cultures) as a secondary response to that which evolution had already produced. A consequence is that we are biologically destined to speak, not to read or write. Accordingly, we are all good at speech, but disabled as readers and writers; the difference among us in reading/writing is simply that some are fairly easy to cure and some are not.

## LETTER-SOUND KNOWLEDGE

Before children can make any sense of the alphabetic principle, they must understand that those sounds that are paired with the letters are one and the same as the sounds of speech. For those of us who already know how to read and write, this realization seems very basic, almost transparent. However, research shows that the very notion that spoken language is made up of sequences of these little sounds do not come naturally or easily to human beings

The small units of speech that correspond to letters of an alphabetic writing system are called phonemes. Thus, the awareness that language is composed of these small sounds is termed phonemic awareness. Research indicates that, without direct instructional support, phonemic awareness eludes roughly 25% of middle-class first graders and substantially more of those who come from less literacy-rich backgrounds.

Although a number of different types of linguistic awareness are, in one way or another, presupposed in the dialogues and activities of beginning reading instruction, preschool-age children's awareness of phonemes of the speech sounds that correspond roughly to individual letters has been shown to hold singular predictive power,

statistically accounting for as much as 50% of the variance in their reading proficiency at the end of first grade (Blachman, 1991; Juel, 1991; Stanovich, 1986; Wagner et al., 1994). Furthermore, faced with an alphabetic script, a child's level of phonemic awareness on entering school is widely held to be the strongest single most determinant of the success that she or he will experience in learning to read or, conversely, the likelihood that he or she will fail (Adams, 1990; Stanovich, 1986).

Measures of the preschool-age children's level of phonemic awareness strongly predict their future success in learning to read. Measures of school children's ability to attend to and manipulate phonemes strongly correlate with their reading success through the twelfth grade. Poorly developed phonemic awareness has been shown to be characteristic of adults with literacy problems in the United States (Liberman, Rubin, Duques, & Carlisle, 1985).

Phonemic awareness can be developed in children by providing them with rich language experiences that encourage active exploration and manipulation of sounds. These activities will lead to significant gains in subsequent reading and spelling performance. Most children will learn basic phonemic awareness from these activities. Some children however, may need more extensive assistance. To identify children who need additional assistance, they should be tested in mid-kindergarten to see if they are adequately progressing, and if not, given more intensive phonemic awareness experiences. For all children, the more complex phonemic awareness abilities are learned in the context of learning letter/sound correspondences.

A close relationship exists between a child's control over sounds and his or her reading ability. Some quick test instruments that reliably assess development of

phonemic awareness in about five minutes include the Rosner, the Yopp-Singer, and the Roswell-Chall tests.

In numerous studies, correlations between a kindergarten test of phonemic awareness and performance in reading years later are extremely high. Thus, researchers in replicated studies in many countries have identified phonemic awareness as a very potent predictor of success in reading and spelling achievement. In fact, Professor Yopp (1998) indicates that such high correlations remain even after controlling for intelligence and socio-economic status.

## CONCEPT OF WORDS

As the child progress to higher grades, Wagner, Torgensen, and Rashotte (1998), found that the ability to analyze words into sounds is precisely the skill that fosters successful reading in first grade. When people speak, others do not attend to the individual sounds. Listeners process the phonemes automatically to derive meaning from the spoken word. The challenge is to get children to attend to the individual phonemes and to see them as separate entities.

Griffeth and Olson (1992) stress that phonemic awareness is not the same as phonics. It is not learning spelling-to-sound correspondences, and it is not sounding out words. It is an understanding of the structure of spoken language (Griffith & Olson, 1992). Juel, Griffeth, and Gough (1992) allege that it is unlikely that children lacking phonemic awareness can benefit fully from phonics instruction since they do not understand what letters and spellings are supposed to represent.

Wattenberg (1998), as cited in American Teacher, says that 50 percent or more of students can easily master phonemic awareness and phonics, which are the first two

components of learning to read. For the remaining children, explicit instruction in those components is necessary or they will be put at a distinct and permanent educational disadvantage by the end of third grade.

With phonemic awareness being so critical in learning to read and write an alphabetic script, it is important to include instruction in phonemic awareness since so many children lack this necessary skill. Research shows that phonemic awareness can be taught, according to Adams, Foorman, Lundberg, and Beeler (1998), and doing so will significantly accelerate children's subsequent reading, writing and test achievement as well as the level of success in their future.

## SUMMARY

This review of literature focused on problems associated in reading, and factors that influence word learning, such as phonemic awareness, alphabet knowledge, concept of word, and letter-sound knowledge and how it can improve reading readiness in kindergarten students. A child's level of phonemic awareness on entering school is widely held to be the strongest single most determinant of the success that she or he will experience in learning to read or, conversely, the likelihood that she or he will fail. Measures of the preschool-age children's level of phonemic awareness will predict their future success in learning to read. Measures of school children's ability to attend to and manipulate phonemes strongly correlate with their reading success through the primary grades. Poorly developed phonemic awareness is believed to be characteristic of adults with literacy problems in the United States.

In Chapter III, the researcher will explain the methods and procedures used to determine if factors that influence word learning, such as phonemic awareness, alphabet

knowledge, concept of word, and letter-sound knowledge, will affect enhancement of literacy development in the students. To achieve this the researcher will outline the description of the population, research variables, classroom procedures, methods of data collection, statistical procedures, and a summary.

# CHAPTER III

## METHOD AND PROCEDURES

Chapter III, Methods and Procedures of this experimental study, sought to determine if targeted students within a kindergarten elementary class at Deep Creek Central Elementary School in Chesapeake will increase their ability to transfer letter and sound recognition into the areas of reading readiness, which are measured by the results of Phonological Awareness Literacy Screening (PALS) Test. Included in Chapter III are the description of the population, research variables, classroom procedures, methods of data collection, statistical procedures, and a summary.

## POPULATION

The population for this study was derived from two kindergarten elementary classes at Deep Creek Central Elementary School in Chesapeake. The students participating in this study are kindergarten students who were identified from the Phonological Awareness Literacy Screening (PALS) pre-test as students requiring additional instructions. The PALS test is an informal screening tool designed for use with kindergarten students. It measures children's knowledge of several important literacy fundamentals: phonological awareness, alphabet recognition, concept of words, knowledge of letter sounds and spelling. PALS provides a direct means of matching literacy instruction to specific literacy needs and provide a means of identifying those children who are relatively behind in their acquisition of these fundamental literacy skills.

A total of ten students were selected to participate in this study. All ten of the participants were selected because they scored below establish benchmark scores and were identified from the Phonological Awareness Literacy Screening (PALS) test as

students requiring additional instructions. The five students who were selected for the experimental group are assigned to the same teacher and will receive additional phonemic awareness instruction. The other five students in the control group are assigned to another teacher and will receive instructions from the established curriculum.

## RESEARCH VARIABLES

The research variables for this study were derived from the hypothesis. There were two research variables identified for this study. The independent variables were new phonemic challenges presented in a gradual, step-by-step progression, with new challenges building on those previously introduced and practiced. Also included were the implementation of phonemic awareness and whole language strategies to the experimental group. The dependent variable was the student's score on the Phonological Awareness Literacy Screening (PALS) test.

## CLASSROOM PROCEDURES

The following plan was designed to implement the following solution component: Various strategies were implemented to introduce, develop, and strengthen the phonemic awareness of the kindergarten students in the targeted classrooms. These phonemic awareness strategies were developed and implemented into the daily curriculum along with whole language activities that included the use of quality literature, trade books, big books, and monthly themes. Also used, was a variety of materials including hand signals to introduce sounds, rhyming words, songs, poems, finger play and consonant books. Lessons were also taken from Phonemic Awareness Pocket Activities and Phonemic Awareness Playing with Sounds to Strengthen Beginning Reading Skills, both by Creative Teaching Press.

An assortment of whole language and phonemic awareness activities were implemented throughout the day and integrated across the curriculum using a variety of themes. Twenty minutes of whole group and fifteen minutes of small group instruction were devoted for the phonemic awareness lessons.

The Phonemic awareness strategies that were implemented into the daily routine beginning in September and included: sound blending, making word tasks, rhyming tasks, deletion tasks, beginning sound tasks, and segmenting tasks. Individual and cooperative learning strategies were incorporated in order to practice phonemic awareness skills. Different letter, sound, and hand signal were introduced each week. Poems, rhymes, and stories were presented with each letter and sound.

The plan was in effect during the period of September 2002, to April 2003.

**September 2002**

Kindergarten grade screening was completed and reviewed.

The first grade tools used and reviewed included:

- Readiness inventory (word recall, letter recognition, and recognizing letters in name.
- Assessment of phonological process

The pre-test: Phonological Awareness Literacy Screening (PALS) test was administered.

The following sounds and corresponding letters were introduced: Bb, Ee, Dd, Gg, and Oo.

The following strategies were developed: rhyming tasks, making words, sound blending and beginning sound tasks.

**October 2002**

The following sounds and corresponding letters were introduced: Hh, Jj, Aa, Tt.

**November 2002**

The following strategies were developed: rhyming tasks, making words, sound blending, beginning sound tasks, and segmenting tasks.

**December 2002**

The following sounds and corresponding letters were introduced: Nn, Ee, Mm.

**January 2003**

The following sounds and corresponding letters were introduced: Pp, Ii, Rr, Ss.

**February 2003**

The following sounds and corresponding letters were introduced: Zz, Ll, Ww.

**March 2003**

The following strategies were developed: rhyming tasks, making words, and sound blending.

**April 2003**

The post-Phonological Awareness Literacy Screening (PALS) Test was administered.

## METHODS OF DATA COLLECTION

The researcher compiled all the test scores from the Phonemic Awareness Inventory test from the control and experimental groups. Since the researcher was not the teacher for the students in this research, a teacher at the school conducted all test, and lesson plans. In order to assess the effectiveness of the intervention, the following tools and procedures were followed:

Phonological Awareness Literacy Screening (PALS) Test (see Appendix A).

Procedure: This instrument was used in September and April, as a pre-test and post-

test. This test is an informal screening tool designed for use with kindergarten students. It measures children's knowledge of several important literacy fundamentals: phonological awareness, alphabet recognition, concept of words, knowledge of letter sounds and spelling. PALS provides a direct means of matching literacy instruction to specific literacy needs and provide a means of identifying those children who are relatively behind in their acquisition of these fundamental literacy skills.

## STATISTICAL ANALYSIS

The final scores from the Phonological Awareness Literacy Screening (PALS) Pre-test and Post-test for the students in the experimental group and the control group were compared by the researcher to determine if there was a significant difference between the scores. A one-tailed t-test was used to analyze the data.

## SUMMARY

Chapter III, Methods and Procedures, of this study described the population that was studied as well as identifying the variables that affected the population. This chapter also described the procedures that the researcher followed in the classroom activities. Additionally, the data collection methods and the instrument used to perform the statistical analysis were discussed. The results of this study will determine whether or not the student's level of literacy performance was improved. The finding of this statistical analysis will be discussed in Chapter IV.

# CHAPTER IV

## FINDINGS

This study was to investigate the effects of using letter and sound recognition to increase transfer of letter and sound recognition into the areas of reading readiness. This research study gathered data by using results of phonemic tests. This chapter presents all the relevant data that was collected and provides a statistical comparison using the sample mean from each group of students to test the predictive hypothesis.

## DATA

A sample of the Phonological Awareness Literacy Screening (PALS) test used as the pre- and post- test is found in Appendix A. In order to not compromise the PALS test, the actual test is not shown. The Phonological Awareness Literacy Screening (PALS) pre-test was given to the targeted groups during the fourth week of school. The teachers for each group tested the students in accordance with established guidelines. A listing of the scores earned by each student in the pre-test who scored below the summed benchmark scores is found in Appendix B. The test was again administered in April. A listing of scores earned by each student in the post-test is provided in Appendix C.

## RESULTS

The mean final score for the control group was based on the five students in the class that were taught using the established kindergarten curriculum. The mean final score for the experimental group was based on the five students who received additional phonemic awareness instruction. The final mean scores used the summed score from the Rhyme Awareness, Beginning Sound Awareness, Alphabet Knowledge, Letter-Sound Knowledge, Spelling, and Concept of Word sections of the test. The population and the

final mean score for both the control group and the experimental group are shown in Table 1.

**Table 1: Mean Final Scores**

| Test Groups | Population | Mean Final Score |
|---|---|---|
| **Control Group** | **5** | **61.8** |
| **Experimental Group** | **5** | **72.4** |

The mean final score for the control group and the experimental group were collected and the one-tailed t-Test was used to determine statistical significance of the results. The mean final score for the control group ($M_1$) was 61.8, while the mean final score for the experimental group ($M_2$) was 72.4. Using a degree of freedom of eight (8) at the .05 level of significance, the critical t-value was determined to be 1.86. The study t-value was 1.8738 with a population size of 10. The results are indicated in Table 2.

**Table 2: Comparison of Populations at the .05 Level of Significance**

| | Population | Mean | Critical t-value | Study t-value |
|---|---|---|---|---|
| **Control group (M1)** | **5** | **61.8** | **1.860** | **1.8738** |
| **Experimental Group (M2)** | **5** | **72.4** | | |

## SUMMARY

This chapter presented the data collected during the study and the method of statistical analysis that was utilized to determine whether or not there was a significant

difference in the final scores earned by students who received additional phonemic awareness instruction in a class at Deep Creek Elementary School. The mean final scores for both groups were compared and subjected to a single tailed t-Test to determine statistical significance. In Chapter V, the results will be summarized and the final conclusion and recommendations will be made.

# CHAPTER V

## SUMMARY, CONCLUSION, AND RECOMMENDATIONS

The goal of this research is to provide evidence that the incorporation of whole language and phonemic awareness tools in a kindergarten classrooms, combined with established curriculum, will foster the skills needed so students can become emergent readers allowing them to score higher on the Phonological Awareness Literacy Screening test, thus reducing the number of students that are being referred for remedial services in reading

## SUMMARY

The goal of this study was to provide evidence that the incorporation of whole language and phonemic awareness tools in a kindergarten classrooms, combined with established curriculum, will foster the skills needed so students can become emergent readers, allowing them to score higher on the Phonological Awareness Literacy Screening test. The hypothesis that established the framework and guided the research for this study was:

> $H_1$: Students in a kindergarten elementary classroom, that receive additional instruction on factors that influence word learning, such as phonemic awareness, alphabet knowledge, concept of word, and letter-sound knowledge, will score higher on the Phonological Awareness Literacy Screening (PALS) Test.

Literacy is the anchor of learning, it is the skill that grounds all school achievement, and for most people, lifetime success. The ability to recognize letters is essential in learning to read. Kindergarten is traditionally regarded as the time to develop children's reading readiness skills. But many children either miss this essential step, or

for one reason or another, were unable to take advantage of such instruction when they were in kindergarten. Early attention to reading skills is critical because most reading problems among teens can be avoided in the early years of childhood. Many students with poor reading skills suffer low self-esteem, break school rules, and are unlikely to graduate from high school.

Because of the continually high rate of students who are failing in reading in the primary grades requiring some students to repeat a grade, it is becoming more important for educators to look at the child before grade one. This study was designed to yield evidence that will demonstrate that students who receive adequate classroom materials will possess characteristics associated with the facilitation or enhancement of literacy development in the classroom in order to succeed in the primary grades

This study was limited to ten students in a Deep Creek Elementary School during the school calendar year of 2002/2003. The researcher was concerned about his son's reading ability and sought to discover the reasons for his deficiency. My interest in the topic was inspired after speaking to an elementary teacher at his school. She stated that she normally went above the required curriculum, and that she had experienced significant improvement with students who initially scored low on the Phonological Awareness Literacy Screening test.

The students in both the control group and the experimental group were selected because they scored below established benchmark scores and were identified from the Phonological Awareness Literacy Screening (PALS) test as students requiring additional instructions. The five students who were selected for the experimental group are assigned to the same teacher and received additional phonemic awareness instruction. The other

five students in the control group were assigned to another teacher and received instructions from the established curriculum.

The Phonological Awareness Literacy Screening (PALS) test was administered in September and again in April. The final scores from the Phonological Awareness Literacy Screening (PALS) Pre-test and Post-test for the students in the experimental group and the control group were compared by the researcher to determine if there was a significant difference between the scores.

## CONCLUSIONS

The goal of this study was based upon the following hypothesis:

$H_1$: Students in a kindergarten elementary classroom, that receive additional instruction on factors that influence word learning, such as phonemic awareness, alphabet knowledge, concept of word, and letter-sound knowledge, will score higher on the Phonological Awareness Literacy Screening (PALS) Test.

The statistical analysis of the data collected for this study resulted in a t-value of 1.8738. The level of significance for a one-tailed test at 0.05 with a degree of freedom (*df*) of 8 was 1.860. The statistical value being greater that the critical value from the table, by conventional criteria, this difference is considered to be statistically significant. Therefore we can accept the hypothesis at the .05 level of significance and conclude that students that receive additional instruction on phonemic awareness will score higher on the Phonological Awareness Literacy Screening (PALS) Test.

The researcher concluded that the implementation of phonemic awareness was very instrumental in effecting student's reading readiness skills. However, even though the experimental group earned a higher mean score than the control group, no one in

either group increased their score significantly enough to score above the higher spring benchmark score. It was also noteworthy to point out that the data collected from the control group showed two students scored above criteria in the fall test, but scored below criteria in the spring. The experimental group had no students score below criteria in the spring that scored above in the fall. Therefore, even though no group increased their score above the criteria for the spring test, the experimental group made the most improvements through the use of a balanced reading readiness program.

## RECOMMENDATIONS

Beginning reading instruction presents educators with a challenge. The researcher believes there is a need for a more balanced reading readiness program to be developed and incorporated in the classroom curriculum. The need for students to develop and attend to speech sounds by using phonemes to guide reading readiness skills needs to be in place in order to show student reading success.

Phonemic awareness can be developed in children by providing them with rich language experiences that encourage active exploration and manipulation of sounds. These activities will lead to significant gains in subsequent reading and spelling performance. Most children will learn basic phonemic awareness from these activities, but some children however, need more extensive assistance. Children should be diagnosed mid-kindergarten to see if they are adequately progressing, and if not, given more intensive phonemic awareness experiences.

Finally and most importantly, learning to read is a lengthy and difficult process for many children, and success is based in large part on developing language and literacy-related skills early in life. A massive effort needs to be undertaken to inform parents of the need to involve children in reading from the first days of life; to engage children in playing with

language through nursery rhymes, storybooks, and writing activities; and, as early as possible, to bring to children the wonder and joy that can be derived from reading.

Parents must be aware of the importance of vocabulary development and verbal interactions with their youngsters. In addition, preschool children should be encouraged to learn the letters of the alphabet, to discriminate between letters, to print letters, and to attempt to spell words that they hear. Introducing young children to print will increase their exposure to the purposes of reading and writing. Children should report to kindergarten with at least a basic level of literacy related skills. It would make the task of learning to read easier for the educators and more rewarding for the child.

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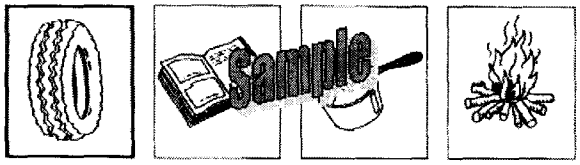
# APPENDICES

## APPENDIX A - PALS-K SAMPLE TEST

### Section I: Phonological Awareness

Phonological awareness, or the ability to identify and reflect on various speech sounds, is necessary for children who are learning to read in an alphabetic written-language system. The ability to pay attention to speech-sound units is necessary to learn and apply letter sounds. PALS-K assesses rudimentary phonological awareness, specifically rhyme and beginning sound knowledge.

**Rhyme Awareness**
Out of a set of three pictures, students are asked to identify the one that rhymes with the target picture. There are ten items; students who perform below expectation on the group rhyme task take the task in an individual format.




**SECTION I: PART A**
**Group Rhyme Awareness**

| | | | | | ✓ |
|---|---|---|---|---|---|
| 1. | **man** | five | bed | **can** | + |
| 2. | **sail** | **whale** | tree | cow | + |
| 3. | **coat** | duck | hand | **goat** | + |
| 4. | **bug** | hat | **rug** | tape | + |
| 5. | **frog** | net | log | boy | – |
| 6. | **ball** | tent | pig | **wall** | + |
| 7. | **cat** | **bat** | horse | saw | + |
| 8. | **lock** | boat | **sock** | pie | – |
| 9. | **house** | **mouse** | bike | fan | – |
| 10. | **box** | leaf | gas | **fox** | + |

Score: 7

**Beginning Sound Awareness**
Out of a set of three pictures, students are asked to identify the one that has the same beginning sound as the target picture. There are ten items; students who perform below expectation on the group beginning sound task take the task in an individual format.

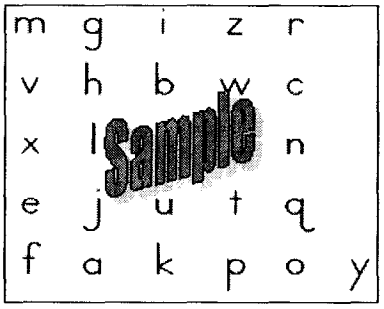

**SECTION I: PART B**
**Group Beginning Sound Awareness**

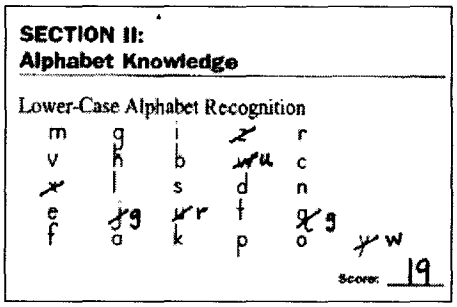
| | | | | | ✓ |
|---|---|---|---|---|---|
| 1. | **bat** | **bird** | lips | ring | + |
| 2. | **rain** | bus | foot | **rake** | – |
| 3. | **sun** | door | **seal** | car | + |
| 4. | **cup** | **cone** | six | belt | – |
| 5. | **hat** | mop | **hose** | bell | – |
| 6. | **van** | hay | **vine** | comb | – |
| 7. | **deer** | leaf | sink | **doll** | + |
| 8. | **sheep** | **shoe** | kite | wheel | – |
| 9. | **well** | bee | nose | **watch** | – |
| 10. | **paint** | gum | **pen** | key | + |

Score: 4

### Section II: Alphabet Knowledge

The single best predictor of early reading achievement is accurate, rapid identification of upper-and-lower-case letters of the alphabet (Adams, 1990). PALS-K assesses children's ability to name the 26 lower-case letters of the alphabet.



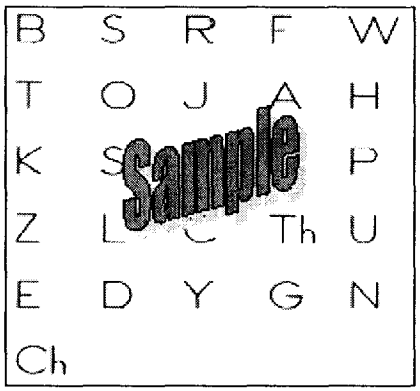



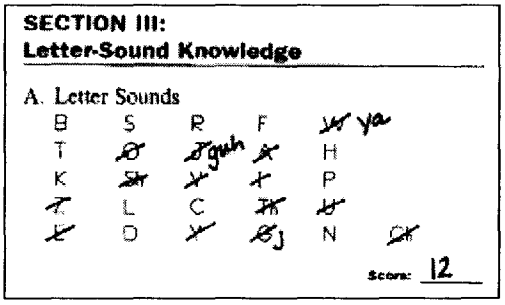

**Section II: Letter-Sound Knowledge**

PALS-K provides two different measures of children's knowledge of letter sounds: (a) their ability to produce letter sounds in isolation and (b) their ability to use their knowledge of letter sounds to attempt to spell.

**Letter Sounds**

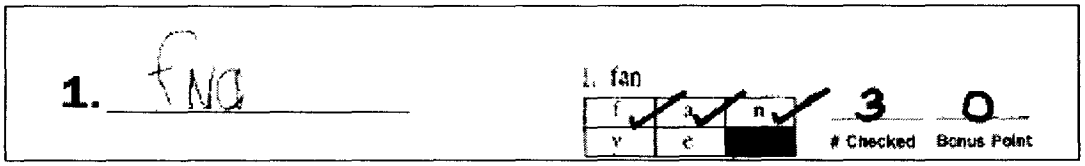
Students are asked to produce the letter sounds of 23 letters of the alphabet, as well as three digraphs.



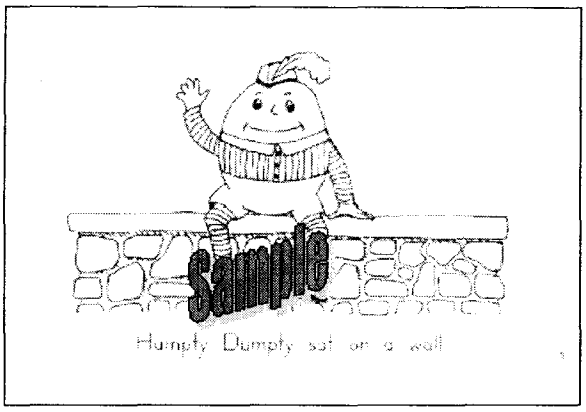

**Spelling**

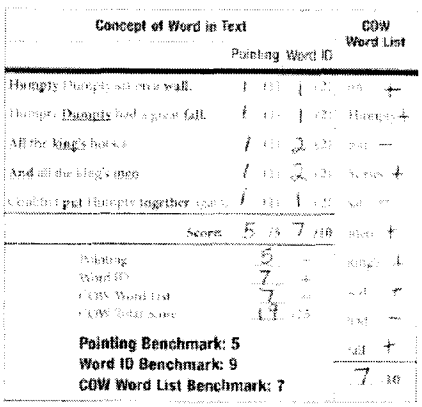
Students spell five consonant-vowel-consonant words, receiving credit for phonetically acceptable substitutions.




**Section IV: Concept of Word**

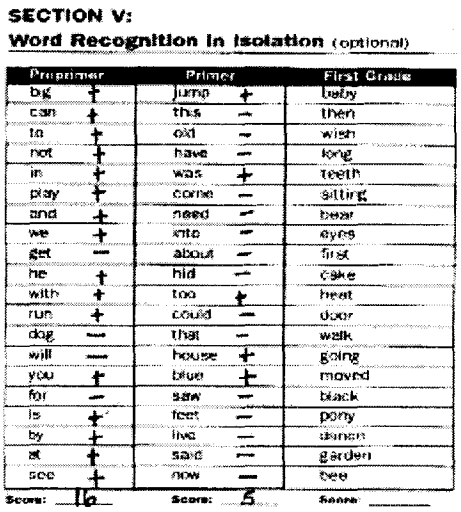
The concept-of-word task measures children's ability to (a) accurately touch words in a memorized rhyme, (b) use context to identify individual words within a given line of text, and (c) identify words presented outside of the text.




**Section V: Word Recognition in Isolation**

Word recognition in isolation provides information about a student's instructional reading level. It is an optional task on PALS-K, but cam be administered to students who have some reading ability. Pre-primer, Primer, and First grade level lists are provided.


## SCORES AND EXPECTATIONS

Student's scores on specific tasks are added together to create a summed score. This summed score is compared against grade-level expectations for fall and for spring. If a student's summed score is below the benchmark, that student should receive instruction that is in addition to the regular classroom literacy instruction.

## APPENDIX B- PALS Pre-Test Scores

This table summarizes the Fall 2002 Kindergarten results for students who scored below summed benchmark scores.

| STUDENTS IDENTIFIED FOR ADDITIONAL INSTRUCTION | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Summed Score | Rhyme | Beg Sound | ABC Lower | Letter Sounds | Spelling | COW Word List |
| **Fall Benchmarks** | **28** | **5** | **5** | **12** | **4** | **2** | **0** |
| CONTROL GROUP | | | | | | | |
| **Student #1** | 14 | 3 | 3 | 8 | 0 | 0 | 0 |
| **Student #2** | 11 | 3 | 3 | 5 | 0 | 0 | 0 |
| **Student #3** | 20 | 4 | 3 | 11 | 2 | 0 | 0 |
| **Student #4** | 24 | 6 | 6 | 10 | 2 | 0 | 0 |
| **Student #5** | 17 | 4 | 2 | 9 | 2 | 0 | 0 |
| EXPERIMENTAL GROUP | | | | | | | |
| **Student #6** | 25 | 6 | 5 | 11 | 2 | 0 | 0 |
| **Student #7** | 16 | 3 | 4 | 9 | 0 | 0 | 0 |
| **Student #8** | 17 | 4 | 5 | 8 | 1 | 0 | 0 |
| **Student #9** | 22 | 5 | 5 | 10 | 2 | 0 | 0 |
| **Student #10** | 15 | 3 | 4 | 8 | 0 | 0 | 0 |

Scores used to create summed score: Rhyme Awareness, Beginning Sound Awareness, Alphabet Knowledge, Letter-Sound Knowledge, and Spelling.

## APPENDIX C- PALS Post-test Scores

This table summarizes the Spring 2003 Kindergarten results for the students who scored below summed benchmark scores in the Fall 2002 test.

| STUDENTS SPRING 2003 POST-TEST | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Summed Score | Rhyme | Beg Sound | ABC Lower | Letter Sounds | Spelling | COW Word List |
| **Spring Benchmarks** | **81** | **9** | **9** | **24** | **20** | **12** | **7** |
| **CONTROL GROUP** | | | | | | | |
| **Student #1** | 32 | 5 | 8 | 25 | 11 | 11 | 2 |
| **Student #2** | 54 | 6 | 7 | 20 | 10 | 10 | 1 |
| **Student #3** | 49 | 9 | 10 | 18 | 8 | 3 | 1 |
| **Student #4** | 75 | 10 | 9 | 25 | 18 | 12 | 1 |
| **Student #5** | 69 | 10 | 10 | 26 | 15 | 7 | 1 |
| EXPERIMENTAL GROUP | | | | | | | |
| **Student #6** | 79 | 10 | 10 | 24 | 21 | 12 | 2 |
| **Student #7** | 64 | 6 | 8 | 22 | 19 | 8 | 1 |
| **Student #8** | 66 | 7 | 8 | 24 | 17 | 9 | 1 |
| **Student #9** | 76 | 9 | 10 | 23 | 20 | 12 | 2 |
| **Student #10** | 77 | 9 | 10 | 26 | 16 | 14 | 2 |

Scores used to create summed score: Rhyme Awareness, Beginning Sound Awareness, Alphabet Knowledge, Letter-Sound Knowledge, Spelling, Concept of Word.

* Below Benchmark score

## APPENDIX D -Table of Critical Values for t

| *Degrees of freedom (df)* | Level of Significance for a one-tail test | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **0.1** | **0.05** | **0.025** | **0.005** | **0.0025** | **0.0005** | **0.00025** | **0.00005** |
| | Level of Significance for a two-tail test | | | | | | | |
| | **0.2** | **0.1** | **0.05** | **0.01** | **0.005** | **0.001** | **0.0005** | **0.0001** |
| 2 | 1.89 | 2.92 | 4.30 | 9.92 | 14.09 | 31.60 | 44.70 | 100.14 |
| 3 | 1.64 | 2.35 | 3.18 | 5.84 | 7.45 | 12.92 | 16.33 | 28.01 |
| 4 | 1.53 | 2.13 | 2.78 | 4.60 | 5.60 | 8.61 | 10.31 | 15.53 |
| 5 | 1.48 | 2.02 | 2.57 | 4.03 | 4.77 | 6.87 | 7.98 | 11.18 |
| 6 | 1.44 | 1.94 | 2.45 | 3.71 | 4.32 | 5.96 | 6.79 | 9.08 |
| 7 | 1.41 | 1.89 | 2.36 | 3.50 | 4.03 | 5.41 | 6.08 | 7.89 |
| 8 | 1.40 | 1.86 | 2.31 | 3.36 | 3.83 | 5.04 | 5.62 | 7.12 |
| 9 | 1.38 | 1.83 | 2.26 | 3.25 | 3.69 | 4.78 | 5.29 | 6.59 |
| 10 | 1.37 | 1.81 | 2.23 | 3.17 | 3.58 | 4.59 | 5.05 | 6.21 |
| 11 | 1.36 | 1.80 | 2.20 | 3.11 | 3.50 | 4.44 | 4.86 | 5.92 |
| 12 | 1.36 | 1.78 | 2.18 | 3.05 | 3.43 | 4.32 | 4.72 | 5.70 |
| 13 | 1.35 | 1.77 | 2.16 | 3.01 | 3.37 | 4.22 | 4.60 | 5.51 |
| 14 | 1.35 | 1.76 | 2.14 | 2.98 | 3.33 | 4.14 | 4.50 | 5.36 |
| 15 | 1.34 | 1.75 | 2.13 | 2.95 | 3.29 | 4.07 | 4.42 | 5.24 |
| 16 | 1.34 | 1.75 | 2.12 | 2.92 | 3.25 | 4.01 | 4.35 | 5.13 |
| 17 | 1.33 | 1.74 | 2.11 | 2.90 | 3.22 | 3.97 | 4.29 | 5.04 |
| 18 | 1.33 | 1.73 | 2.10 | 2.88 | 3.20 | 3.92 | 4.23 | 4.97 |
| 19 | 1.33 | 1.73 | 2.09 | 2.86 | 3.17 | 3.88 | 4.19 | 4.90 |
| 20 | 1.33 | 1.72 | 2.09 | 2.85 | 3.15 | 3.85 | 4.15 | 4.84 |
| 21 | 1.32 | 1.72 | 2.08 | 2.83 | 3.14 | 3.82 | 4.11 | 4.78 |
| 22 | 1.32 | 1.72 | 2.07 | 2.82 | 3.12 | 3.79 | 4.08 | 4.74 |
| 23 | 1.32 | 1.71 | 2.07 | 2.81 | 3.10 | 3.77 | 4.05 | 4.69 |
| 24 | 1.32 | 1.71 | 2.06 | 2.80 | 3.09 | 3.75 | 4.02 | 4.65 |
| 25 | 1.32 | 1.71 | 2.06 | 2.79 | 3.08 | 3.73 | 4.00 | 4.62 |
| 26 | 1.31 | 1.71 | 2.06 | 2.78 | 3.07 | 3.71 | 3.97 | 4.59 |
| 27 | 1.31 | 1.70 | 2.05 | 2.77 | 3.06 | 3.69 | 3.95 | 4.56 |
| 28 | 1.31 | 1.70 | 2.05 | 2.76 | 3.05 | 3.67 | 3.93 | 4.53 |
| 29 | 1.31 | 1.70 | 2.05 | 2.76 | 3.04 | 3.66 | 3.92 | 4.51 |