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Phonemic awareness : one piece of the "learning to read" puzzle

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Phonemic awareness : one piece of the "learning to read" puzzle

Abstract

This research paper focuses on a review of current literature regarding the role of phonemic awareness within reading instruction for elementary students. Phonemic awareness studies and results will be shared. This paper will define phonemic awareness and relative terms, and contrast it with phonics instruction. Phonemic awareness instruction and intervention strategies will be discussed, including supplemental and intense instruction for at-risk readers. A possible sequence for teaching phonemic awareness, teaching applications, and professional book titles are offered as resources for educators of early elementary children.

**PHONEMIC AWARENESS: ONE PIECE OF THE 'LEARNING TO READ'
PUZZLE**

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By

Michelle S. Carradus

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ABSTRACT

This research paper focuses on a review of current literature regarding the role of phonemic awareness within reading instruction for elementary students. Phonemic awareness studies and results will be shared. This paper will define phonemic awareness and relative terms, and contrast it with phonics instruction. Phonemic awareness instruction and intervention strategies will be discussed, including supplemental and intense instruction for at-risk readers. A possible sequence for teaching phonemic awareness, teaching applications, and professional book titles are offered as resources for educators of early elementary children.

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Phonemic Awareness: One Piece of the 'Learning to Read' Puzzle

Chapter 1

Introduction

Beginning reading success or failure sets the stage for future academic and personal success. Many research studies have investigated the process of reading development and effective strategies to prevent reading difficulties. Early identification and providing appropriate intervention practices can reduce the number of students who struggle with reading and experience difficulty in learning to read.

Problem Statement

There is widespread concern that education is not as effective as it should be in teaching all children to read. The National Center for Education Statistics found that 37% of fourth-grade students couldn't read well enough to perform grade-level work. Children who remain poor readers during the first three years of school rarely acquire average levels of reading fluency, and those that are poor readers at the end of first grade almost never acquire average reading skills by the end of their elementary years. Those who fall behind peers in their early reading skills have fewer opportunities to practice reading. Waiting until late elementary school to identify children who are at risk of reading failure is too late. Children who have low literacy levels are at an increasing disadvantage as adults in a society that is demanding higher-level reading skills within the workplace.

Therefore, teaching all children to read will require resources aimed at early identification and preventive instruction.

Intervention practices can be based on the five aspects of reading development have been identified by the National Reading Panel, (2000); and Snow, Burns, & Griffin, (1998). The five aspects are phonics, phonemic awareness, fluency, vocabulary and comprehension. One of these, phonemic awareness, refers to the specific auditory skill that allows identification of individual sounds in words and sets the stage for phonics instruction. An important development in early reading is phonemic awareness because it allows children to associate sounds with letters, and later, decoding. Learning to read involves learning the relationship between letters and their sounds, which enables children to acquire word reading skills and the ability to phonologically decode words. Poor letter sound association and phonological decoding are often an underlying characteristic of children with reading disabilities (Rack, Snowling, & Olson, 1992).

The National Reading Panel has stated that phonemic awareness could be taught and learned. Phonemic awareness instruction can help children learn to read and spell. Phonemic awareness instruction is most effective when children are taught to manipulate phonemes by using letters of the alphabet. Lastly, phonemic awareness instruction is most effective when it focuses on only 1-2 types of phoneme manipulation, rather than several types (National Reading Panel, 2000).

Definition of Terms

Phonemic awareness falls under the broader terms of metalinguistic awareness and phonological awareness.

Metalinguistic awareness: understanding the purpose of written language (what print looks like, sentence patterns, directionality, spacing, spelling, story elements, etc.).

Phonological awareness: a broad term that includes phonemic awareness and includes sub skills such as rhyming, alliteration, syllabication, and onset-rime.

Phonemic awareness: the ability to hear, identify and manipulate individual sounds in spoken words.

Phonemes: the individual sound units that make up words. The focus is on the sounds of spoken language.

Phonics: the instructional approach that links sounds of spoken language to printed letters. Phonics tasks involve looking at print and sounds being represented by letters.

Alphabetic principle: based on the articulatory and sound structure of words rather than their meanings

Alphabetic writing systems: represent words by using letters that correspond to phonemes, which include consonant and vowel units

Research Questions

Traditionally, Taylor Elementary students lack basic phonemic skills when entering kindergarten/first grade. Reviewing current research studies and articles will provide ideas and strategies involving phonemic awareness for young children. What is the correlation between phonemic awareness and learning to read or reading connected text? When should early intervention practices occur? What kinds of phonemic awareness instruction and activities could be implemented to be effective with emergent and early readers?

Significance of the Problem

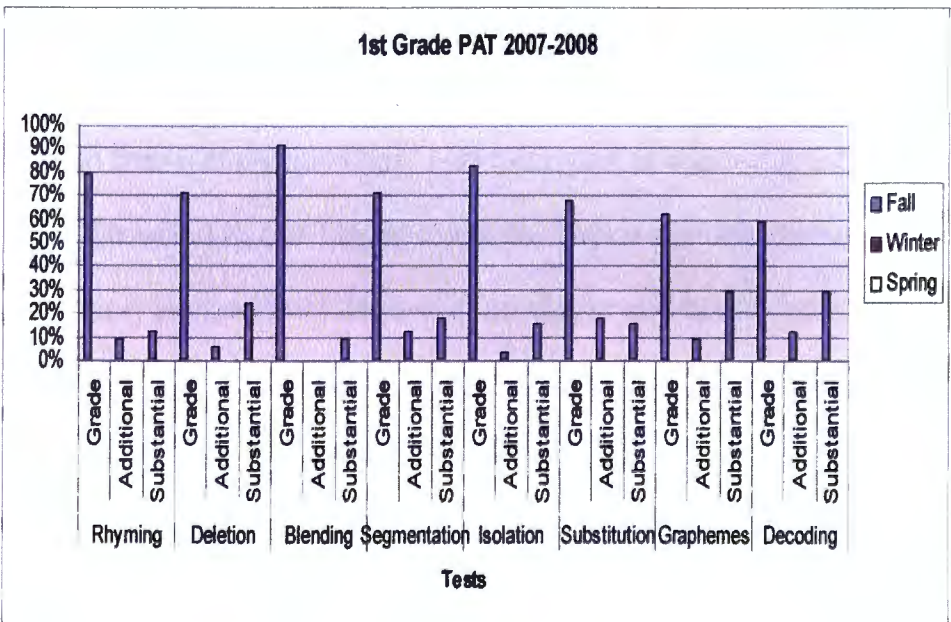
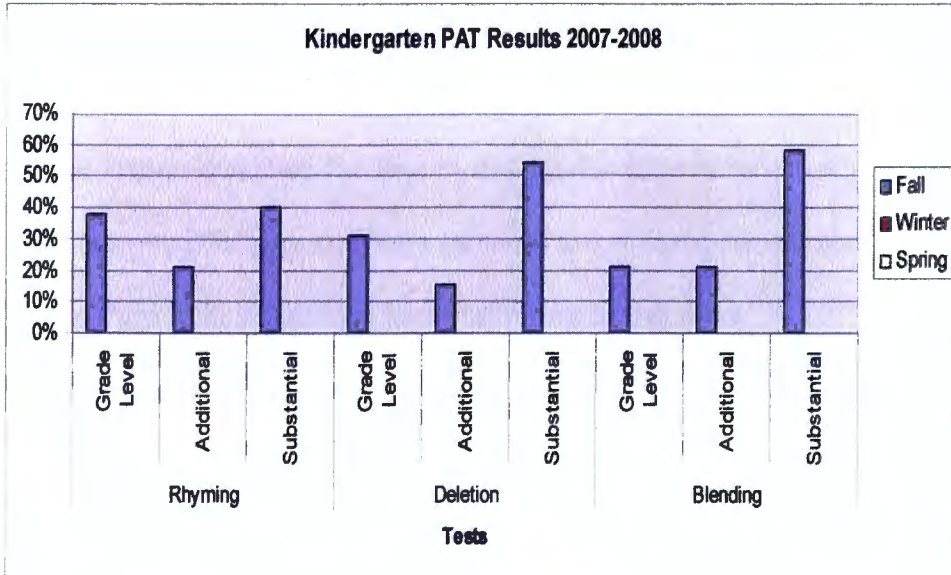
The problem is that many students, especially those from disadvantaged home backgrounds, do not enter school with phonemic awareness skills, including knowledge of letters and sounds, or even basic academic skills. Kindergarten and first grade students encounter many new experiences when they enter school. Unfortunately, students are ill-prepared for what they face academically in the first two years of school. This is the situation at Taylor Elementary School in Cedar Rapids, Iowa. Few Taylor students have had prior school experiences such as pre-school or daycare. They have not had the opportunity to have stories and nursery rhymes read aloud to them. They have not had the advantage of a print-rich environment filled with appropriate oral language and conversations. Basic skills such as knowing how to write their first and last name, colors, numbers, and alphabet letters and sounds are frequently

not part of their current knowledge base. Adding to this academic struggle, are contributing factors such as lack of parental support and inadequate social skills, which can equal a recipe for failure for these children.

One of the most important academic skills a student will learn while in kindergarten and first grade is learning to read. All five areas; phonics, phonemic awareness, comprehension, vocabulary and fluency are important, but phonological awareness skills are can play a critical part in emergent and early reading instruction. One of the reasons that I'm particularly interested in the role of phonological awareness in learning to read is that Taylor Elementary was visited by representatives from the Iowa State Education Department in Des Moines several times over the past 2007-08 school year as it was on the state's "watch" list and failed to meet benchmarks on several of the subtests on the Phonological Awareness Test (PAT).

The five areas outlined by the National Reading Panel (phonemic awareness, phonics, fluency, vocabulary, and comprehension) are components outlined in the *Reading First* initiative. These components play a major role in Taylor School's reading program. The area of phonemic awareness is a central focus for kindergarten and first grade students. A high percentage of Taylor first graders did not pass deletion, substitution, and isolation tasks on the assessment measure, which was the Phonological Awareness Test (PAT). Graphemes and decoding were also low areas on the *phonics* section of the same test.

The graphs indicate those who need additional and/or substantial support as indicated by performance on the Phonological Awareness Test (P.A.T.)



Taylor Elementary School

Taylor Elementary is located in an urban setting in Cedar Rapids, Iowa. The school receives school-wide Title One funding and is identified as a *Put Reading First* building. The student enrollment for 2007-08 was 237 students, primarily Caucasian, with approximately 17% African American. The majority (87%) of Taylor's students qualifies for free or reduced priced lunches and is considered to be in the lowest SES group. Many parents are either unemployed, or work second or third shift at several local factories in the area.

The 2008-09 year put Taylor Elementary in an unusual and difficult situation as the building's first floor was entirely destroyed due to June 2008 flooding, and Taylor did not re-open in time for the 2008-09 school year. It will re-open for the 2009-10 school year. Students and teachers were placed in several different buildings in the Cedar Rapids Community School District during the 08-09 year. Taylor staff is especially concerned about our kindergarten and first grade students in these other buildings, and the types of academic interventions that are being provided to our Taylor students. Taylor administration, classroom teachers, and support staff believe in providing additional support and resources at the primary level, focusing on K-2, to allow for early intervention and prevention of later reading difficulties. Taylor also received a State of Iowa at-risk grant that provides for additional support, a parent interventionist, a learning specialist, associates, and enrichment coordinator for students at the K-3 level during this transition year to prepare them for returning to Taylor for the 2009-10 year.

Organization of the Paper

Chapter One provides an introduction to the issue, statement of the problem, definitions of terms related to phonemic awareness, the research questions that will be the focus of the paper, the significance of the problem, and background information on Taylor Elementary School.

Chapter Two will address question of the correlation issue- direct systematic instruction of phonemic awareness and phonics or not to use direct systematic instruction, and issues related to its use.

-Proponents: Literature review of articles by these authors: Marilyn Adams, Barbara Foorman, Hallie Yopp, Donald Richgels

-Opponents: Literature review of articles by these authors: Denny Taylor and Gerald Coles, Stephen Krashen, Richard Allington

-Summarization of information: Use information from Marilyn Chapman article, and Donald Shankweiler & Anne Fowler article addressing questions that people ask about the role of PA in learning to read.

Chapter Three will address, "What is phonemic awareness and phonics?" Literature review of articles by Michael Heggerty, Eileen Ball and Benita Blachman, Keri Gernand, Kristen Ritchey and Suzanne Reading.

Chapter Four will address types of phonemic awareness intervention. Additionally, it will provide an analysis and interpretation of Chapters Two and Three. It will include a review of information from Joseph Torgesen and articles by Holly Menzies, Shobana Musti-Rao, Janice Ryder, and Marilyn Chapman.

The chapter will discuss phonological interventions and use that information to lead into phonemic awareness activities that could be used in classroom applications for Chapter Five.

Chapter Five will focus on teaching applications based on Chapters Two through Four. Information from Unit 5 module-Word Play, Hallie Yopp article, Supporting PA in the classroom and Read-Aloud books for developing PA, Patricia Edelen-Smith article titled *How Now Brown Cow*, American Federation of Teachers Chapter 3: Games, Patrick Manyak's *Phonemes in Use*, Grant Wood Area Education Agency 10 (GWAEA) Awareness kit, and Dr. Michael Heggerty's Phonemic lessons as well as several professional resource titles will be included.

Chapter 2

Proponents/Opponents in the Phonemic Awareness Debate

As I began reading and reviewing the information from articles that I had collected, it came to my attention that not all those in reading field agree on the role that phonemic awareness plays in early reading instruction. It is a topic of debate. During the last 8-10 years, phonemic awareness has been touted as the “it” factor in helping young children learn to read and if students didn’t have it phonological awareness they were destined to have difficulty learning to read.

This chapter will discuss information based on findings of proponents and opponents in the phonemic awareness debate. Those who support early phonemic instruction include Marilyn Adams, Hallie Yopp, Donald Richgels and Karla Poremba. Those on the other side of this debate include Denny Taylor, Gerald Coles, Stephen Krashen, and Richard Allington. National Reading Panel conclusions will be shared. Claims and concerns regarding phonemic awareness instruction will be presented. When should phonemic awareness instruction begin and what is the correlation between phonemic awareness and learning to read? Finally, support regarding the importance of early awareness will be discussed.

Supporters

There is controversy in educational literature over the role that phonemic awareness plays in reading instruction. Both sides involved in the dispute over

the importance of phonemic awareness in literacy education will be addressed in this paper. Authors that support direct and systematic phonemic awareness instruction include Marilyn Adams, Barbara Foorman, Hallie Yopp, and Donald Richgels. Adams authored, *Beginning to Read* and "*The Elusive Phoneme*". Opponents include Denny Taylor, Gerald Coles, Stephen Krashen and Richard Allington.

Marilyn Adams

Adams states that before children can make any sense of the alphabetic principle, they must understand that the sounds that are paired with letters are the same as the sounds of speech. She begins the article by stating that research has yielded an answer to the question of why learning to use alphabetic principle poses difficulty due to conceptual and perceptual elusiveness of the phonemes. She cites research that states that without direct instructional support, 25% of middle class first graders, and a higher percentage of poor children will not be phonemically aware and will have difficulty in learning to read. (Adams, 1990). Phonemic awareness is difficult for children because they do not attend to the sounds of phonemes as they speak or listen to speech. Attention is given to the word as a whole unit. Adams feels that teachers must get children to notice the individual phonemes. The ability to analyze words into sounds is the skill that promotes successful reading in first grade (Wagner, Torgesen, & Rashotte, 1994). Adams states that a child's level of phonemic awareness when entering school is widely held to be the strongest single determinant of success in learning to read.

Research findings show strong correlation between children's ability to attend to and manipulate phonemes and reading success through twelfth grade (Calfee, Lindamood, & Lindamood, 1973). Based on the findings of Ball and Blachman(1991), research shows that phonemic awareness can be developed through instruction, and doing so significantly accelerates children's reading and writing achievement. Phonemes can be identified as units of speech that are represented by the letters of the alphabet.

Adams argues that part of the difficulty in acquiring phonemic awareness is that from word to word and speaker to speaker the sound of any given phoneme can vary greatly. The number of phonemes in English ranges from 44-52. Having awareness of these phonemes allows children to understand how the alphabet works, which relates to learning to read and spell. Letter-sound correspondences should be built into phonemic awareness activities not as separate rote memorization activities. She suggests sequencing phonemic awareness activities from large chunks to smaller and smaller parts in a systematic way. Start with stories to sentences, sentences to words, words to syllables, syllables to phonemes. In her book, *Beginning to Read*, she includes 51 lessons as to how children can be taught to understand language and the alphabetic code through seven categories of phoneme awareness activities. These categories include listening games, rhyming, words to sentences, awareness of syllables, initial and final sounds, phonemes, and introducing letters and spelling.

Hallie Yopp

Hallie Yopp looked at developing phonemic awareness in children and supporting phonemic awareness development in the classroom. Yopp contends that the aspect of language that most children lack is phonemic awareness; the basic understanding that speech is composed of a series of sounds. Children who are phonemically aware have control over the smallest units of speech. Yopp also agrees with Adams in that the very nature of phonemes makes them difficult because they are not discrete units in speech but rather abstract units of speech that are chunked into larger units such as syllables. Yopp discusses the relationship between phonemic awareness and reading in that it is the reader's task to understand the relationship of the letters in the writing system to the phonemes in the language. This relationship between reading and phonemic awareness can be interpreted that phonemic awareness is a consequence of learning to read, or that phonemic awareness is a pre-requisite of learning to read. Although some studies support the first idea that phonemic awareness is a consequence of exposure to print and reading instruction, there is also evidence that some level of phonemic awareness is a pre-requisite for learning to read. Most likely, the relationship is reciprocal. Phonemic awareness can be both a pre-requisite and a consequence of learning to read.

Several studies looked at whether phonemic awareness can be taught. Findings from studies conducted by Ball and Blachman, 1991; Hohn & Ehri, 1983; Williams, 1980; Marsh & Mineo, 1977; and Yopp & Troyer, 1992 demonstrated that children could be trained in phonemic awareness. Lundberg,

(1988) found that children who had received phonemic awareness training progressed in phonemic awareness significantly more than children who did not receive training and were also able to maintain this increase over time. Did the training also affect reading performance? Results based on a reading achievement test showed that children who had received phonemic awareness training outperformed and were much better spellers than those who did not receive training. Bradley & Bryant (1983) also concluded that phonemic awareness had a strong influence on later success in learning to read and spell.

Yopp also gives suggestions for teachers that are similar to Adams. Less formal activities implemented in real classroom settings will also result in an improvement in phonemic awareness. Storytelling, word games, rhymes, riddles, songs, and read-alouds that use alliteration and repeated patterns will help students to focus attention on language and the smaller units of speech (phonemes).

Donald Richgels and Karla Poremba

Richgels & Poremba (1996) focused on kindergarten students to develop tools to help them look carefully at print and help them to develop phonemic awareness. The authors explain that teachers can play an active role in guiding children's attention to print during functional and holistic written language experiences, with quality, contextualized reading rather than direct instruction with isolated sounds and words. All children can benefit from meaningful encounters with print that will help them to become literate. The authors discuss

how the “What Can You Show Us?” activity can help teachers support student’s learning to look at print and experiment with what they know, and share that knowledge with classmates. The “What Can You Show Us?” activity consists of four elements: preparation, previewing, student demonstrations, and applications. It takes place along with shared reading which involves the teacher reading aloud a chart or big book, the teacher and students reading it together, and the students doing individual activities with the selection. Below is an outline of the technique presented by Richgels and Poremba.

“What Can You Show Us?” [Richgels and Poremba “Kindergarteners Talk About Print: Phonemic Awareness in Meaningful Contexts”, *The Reading Teacher* 49(8), 632-42.]

- Can help teachers support student’s learning to look at print and experiment with what they know, and share that knowledge with classmates.
- 4 elements: *preparation, previewing, student demonstrations, and applications.*

Takes place along with shared reading which involves the teacher reading aloud a chart or big book, teacher and students reading it together, and the students doing individual activities with the selection.

- *Preparation*= Choosing quality literature and displaying the book on an easel clipped open to an interesting page
- *Previewing*= Teacher directs students to the displayed text and gives them time to talk with one another about what they see.

Before conducting the shared reading of the text, the teacher invites volunteers to come before the class and show something that they know about the text.

- *Student demonstration*= The students learn from one another and the teacher is more of an observer, or helper during this portion. It also allows the teacher to observe and informally assess strengths and weaknesses.
- *Application*= Carried out through the shared reading, reading together, student activities and several re-readings of the text. During application, the teacher can remind students of what was learned during student demonstrations and can lead them to focus on story elements such as characters, setting, and plot, as well as make predictions and ask questions.

The open-ended question of “What Can You Show Us?” lends itself to children really showing what they know about print rather than showing us how they can read. Through preparation, previewing, and demonstrating, students will become aware of print features that will develop their PA. It is a social activity for the students, and allows the teacher to actively observe what children know and facilitate PA in a meaningful way.

National Reading Panel

The National Reading Panel (NRP) made five conclusions based upon ‘scientific research’ on phonemic awareness instruction: 1) Phonemic awareness can be taught and learned. Teachers can use activities including phoneme isolation, identity, categorization, blending, segmentation, deletion, addition, and substitution to build phonemic awareness. 2) Phonemic awareness instruction helps children learn to read. 3) Phonemic awareness instruction helps children learn to spell. 4) Phonemic awareness instruction is most effective when children

are taught to manipulate phonemes by using the letters of the alphabet. 5) Phonemic awareness instruction is most effective when it focuses on only 1-2 types of phoneme manipulation, rather than several types.

Opponents

There are those authors who disagree with the NRP's findings. Denny Taylor disputes the findings of the NRP in her article titled, "Beginning to Read and the Spin Doctors of Science" (1999). She looks at the research from two perspectives; the psychological, and the sociocultural. When the reading process is regarded as psychological, the emphasis is on reading words, the "in-your-head" processes. The sociocultural perspective views literacy as social and cultural practice, taking the research "out-of-the-head".

Denny Taylor and Gerald Coles

Taylor examines phonemic awareness research findings from the experimental psychological perspective and discusses its faults. The studies are selectively and misleadingly cited out of context, and that pro-phonemic awareness authors use 'spin doctoring' to support their arguments. Stanovich claims that phonemic awareness is causally related to early reading skill. Taylor argues research articles do not support reciprocal causality, but rather reciprocal (correlation) relationship between phonemic awareness and learning to read. State governments are instructing school districts to shift reading instruction to include specific phonemic awareness instruction citing this so-called causal

relationship. Taylor did not find additional data to support Stanovich's causal link from explicit phonemic awareness instruction to reading skills.

Other concerns with the data are that the tasks that children completed were not representative of authentic reading. Taylor cautions that these tests are only measuring ability to blend individual sounds (word calling), not necessarily 'real reading'. Another point of contention is that the studies cited by the NRP were conducted with a relatively small number of participants (small sample size). The statistics had a lack of normal distribution, and that the conclusions may not apply to a broader population. Discarded data is another problem with the research. Similarly is the "selective" use of *some* of the data. Tasks that children were asked to perform required them to produce mechanical reproductions, which is not what children do when they are learning to read.

Taylor examined phonemic awareness research from a sociocultural perspective and lists major criticisms of this research. The first is that experimentation rests on the assumption of cultural and social uniformity. The social and cultural lives of children cannot be ignored and be made the same or uniform for all participants. In phonemic awareness research, there is a separation of the child's everyday world from their performance on isolated tasks, again ignoring the social and cultural aspects of the learning process. The form of written language is separated from meaningful text, (there is no connected text) on these tasks. There is the false assumption that children's early cognitive functions work from abstract to meaningful activities. Many tests that are given to children provide no real value outside of the testing situation. Another false

assumption is that there will be transfer of learning to read from isolated phonemic awareness exercises to reading texts. Taylor also concludes that direct application of experimental research on phonemic awareness to classroom situations changes the teacher-student relationship. If children are not active learners they will not have the opportunity to create their own literate environments.

Stephen Krashen

Krashen rebuts the evidence cited by the NRP in his article, "False Claims About Literacy Development". He focuses on four false claims. 1) Phonemic awareness training significantly improves reading ability. He gives the example that children without phonemic awareness or with low phonemic awareness often learn to read quite well (Bradley & Bryant, 1986). Even excellent readers can do poorly on phonemic awareness tests. 2) Systematic phonics instruction is more effective than less systematic phonics instruction. When Krashen looked closer at the NRP's analysis he found that intensive phonics instruction had a limited impact. The effect was actually quite small and was based on reading single, regularly spelled words aloud. 3) Skills-based approaches are superior to whole language. The NRP did not analyze effect sizes separately for each kind of measurement used, so some measurements involved reading isolated words while others involved reading real texts. 4) There is no clear evidence that encouraging children to read more in school improves reading achievement. The NRP report left out many studies, basing its conclusion on the basis of only ten

studies of SSR with control groups (discarded data/selective data). Krashen warns that educators should ponder what the NRP's conclusions really indicate, especially since NRP conclusions are reflected in reading plans developed by state and local agencies, especially those whose federal funding requires adherence to these conclusions.

Richard Allington

Richard Allington, who has authored several books and articles on literacy education, offers his opinions about phonics-oriented reading instruction in the article, "Overselling Phonics" (1997). He focuses on five assertions about reading instruction that are appearing on state education documents, advertisements, published materials, and legislative testimonies. The first unscientific assertion is that no one teaches phonics. Research shows that almost all primary grade teachers teach phonics daily and that exemplary teachers teach phonics strategies to children rather than assigning pages of a phonics workbook. Phonics are still part of basal series. Unscientific assertion two is that there is "a phonemic awareness crisis". Evidence indicates that 80-85% of children acquire phonemic awareness by middle of first grade, and the other 15-20% usually receive some sort of intervention. Small group targeted instruction and intensive intervention work well for those who do not develop phonemic awareness as readily as their peers. Allington states that the research does not advocate a particular instructional program or materials/methods. The third assertion is that direct, systematic instruction is the only way. Allington adds that exemplary

teachers implement phonics instruction that is opportunistic and direct (teachable moments). Next, there are no specific studies that support the exclusive use of decodable texts. The key is to use manageable, instructional level texts that children can read without too much difficulty. Allington asserts that Americans are often easily misled into buying phonics programs. Good instruction occurs when teachers are well prepared, know how literacy development progresses, and truly know their students, not some commercial phonics program.

Claims and Concerns

Marilyn Chapman, Donald Shankweiler, and Anne Fowler address many claims, questions, and concerns about phonemic awareness and clarify what research shows about phonemic awareness. Phonemic awareness is not the single most important factor in learning to read, but is one of many abilities that will help children learn to read and write. It is a key to reading an alphabetic system.

Many Contributing Factors

There is no single cause of reading problems. There are many contributing factors that include: social/cultural factors, language issues, lack of literacy experiences, poverty, inadequate instruction and individual differences. Readers differ in how much explicit teaching they require to achieve phoneme awareness, because phoneme awareness is necessary and will not spontaneously develop on its own, instruction must be available to beginning

readers. Most children will not need direct training in phonemic awareness in order to learn how to read, but almost all children can benefit from phonemic awareness activities that are meaningful and connect to the student's reading and writing. Explicit instruction doesn't have to equate with direct methods such as skill and drill or memorization. Evidence collected by Ehri & Nunes, (2002) found that there is no one approach to phonemic awareness that is superior to the others. There is no research that proves there is one best way to teach reading, phonics, or phonemic awareness. Chapman suggests that the best guide for planning phonemic awareness instruction is knowledge of the sequence of literacy development and ongoing assessment of literacy progress in the classroom. Comprehensive literacy programs include both phonemic awareness and phonics.

When to Begin?

Many believe that phonemic awareness screening and activities need to take place at the beginning of kindergarten. Chapman clarifies that children need onset-rime activities before focusing on phonemic awareness. Onset-rime may be useful stepping-stones, but phoneme level analysis also needs to be included in children's reading instruction. Children will benefit most from phonemic awareness activities when they have a solid understanding of the functions of print. Most kindergarten children instructed in a literacy-rich classroom will develop phonemic awareness with the ultimate goal being the application of this awareness in context of real reading and authentic writing. Shankweiler & Fowler

concur that most, not all, kindergarteners can gain phonemic awareness with instruction and make normal reading progress.

What's the correlation?

What about the correlation between phonemic awareness and learning to read? When considering all the research from both sides of the debate, it is most likely a *reciprocal* relationship, not a *causal* relationship. Literacy and phonemic awareness are inter-related. Phonemic awareness can be both a pre-requisite and a consequence of learning to read and write. It can help children learn to read and write, and learning to read and write helps children develop phonemic awareness. Phonemic awareness supports reading development as part of a broader program that includes vocabulary, comprehension, decoding, reading strategies, and writing. Phonemic awareness by itself does not equal reading success, it needs to be coupled with ongoing reading instruction in word recognition and analysis, as well as using context and reading for meaning.

Early Awareness Plays a Key Role

A top national priority is improving children's reading skills. Issues related to how reading should be taught are in the media and legislatures. Recent research may indicate that the tide has turned from approaches discouraging explicit instruction to those that incorporate systematic instruction in phonological awareness as part of reading curriculums.

What needs to be considered is the extent to which reading research can be used to guide decisions about how reading is to be taught in the best way to young children. No matter which method is used, there is consensus among researchers that early awareness of the alphabetic and phonemic principle plays a key role in becoming a skilled reader.

Closing Thoughts on Chapter Two:

In summary, there are researchers on both sides of this debate as to whether or not explicit, systematic instruction is the key to phonemic awareness and the ability to learn to read. There are claims and concerns about phonemic awareness instruction, whether or not it needs to be taught and if so, when it should be introduced to children. At the very least, there is evidence that there is a reciprocal relationship between phonemic awareness and learning to read. The phoneme level of phonological awareness can be a critical component to learning to read. Children who have phonemic awareness understand that sounds and letters are related and are likely to have an easier time learning to read. Children can benefit from being exposed to phonemic awareness instruction, whether it is explicitly taught or not.

Chapter 3

What is Phonemic Awareness?

Phonemic awareness is the ability to hear, identify, and manipulate individual sounds (phonemes) in spoken words. Phonemic awareness falls under the broader 'umbrella' term of metalinguistic awareness and phonological awareness. Metalinguistic awareness is understanding the purpose of written language, what print looks like, sentence patterns, story elements, directionality, spacing, spelling, punctuation. Phonological awareness consists of rhyming, alliteration, syllables, and onset-rime (/c/ /at/). Phonemic awareness is the ability to segment and blend sounds or individual phonemes. Children who have phonemic awareness can segment into phonemes to write and blend phonemes to read. Psychologically oriented researchers argue that P.A. is a pre-requisite to reading, whereas others, such as Richard Allington, contend that PA develops as a consequence, or as a reciprocal relationship. PA helps kids learn to read and write, and learning to read and write helps PA. Phonemic awareness is not phonics.

Phonemic Awareness vs. Phonics

Phonemic awareness

Main focus is on sounds/phonemes

Spoken language

Auditory

Manipulating sounds

Phonics

Main focus is on letters/graphemes

Written language

Visual and auditory

Reading and writing letters

Phonemic awareness can be taught and learned and is most effective when children are taught to manipulate phonemes by using the letters of the alphabet. Teaching one or two types of phoneme manipulation, specifically blending and segmenting phonemes in words, is likely to benefit student reading. Before children can make sense of the alphabetic principle, they must understand that the sounds that are paired with letters are the same as the sounds of speech.

Phonemic awareness is important to reading because it improves children's word reading, comprehension, and spelling. Phonemic awareness instruction improves comprehension through its influence on word reading, because the reader can rapidly and accurately read words- which frees them to focus attention on the meaning of what they are reading. Spelling is improved because children who have phonemic awareness understand that sounds and letters are related and can relate the sounds to letters as they spell words. Having phonemic awareness skills allows children to have an easier time learning to read and spell than children who have few or none of these skills. Letter knowledge and phonemic awareness are two strong predictors of how well children will learn to read during the first two years of reading instruction.

Phonics

Phonics is an instructional approach that links the sounds of spoken language to printed letters. Phonics is the understanding that there is a predictable relationship between the phonemes and graphemes. It helps children

learn and use the alphabetic principle. Knowledge of the alphabetic principle contributes to children's ability to read words in isolation and in connected text.

Systematic phonics instruction should be integrated with other reading instruction. It is just one component of the reading process. Phonics instruction is not an entire reading program for beginning readers. Its aim is to teach the important letter-sound relationships which are practiced through having many opportunities to read. Early phonics instruction has been found to be more effective than phonics instruction that is introduced after first grade and makes a bigger contribution to children's reading growth than alternative programs or no phonics instruction. Phonics instruction is also beneficial for students of any socioeconomic status.

Michael Heggerty: Thoughts on Phonemic Awareness

Michael Heggerty from Literacy Resources Inc. discusses key points of phonemic awareness instruction. Phonemic awareness is primarily an auditory training process that doesn't involve print. He stresses that phonemic awareness is not phonics. He does advise teachers to align phonemic awareness instruction with the same scope and sequence they are using to teach phonics. Phonics lessons should coincide with phonemic awareness lessons for that week. If the main focus is on phonemes then the main focus in phonics is graphemes/letters and their corresponding sounds. Whereas phonemic awareness is the auditory process, phonics is both visual and auditory. In phonemic awareness, students work with manipulating sounds. In phonics instruction, students work with reading

and writing letters according to their sounds, spelling patterns, and phonological structure.

Phonemic Awareness Instruction

Heggerty states that phonemic awareness instruction had positive effects on word reading and nonsense word reading which indicate that it helps children decode familiar and unfamiliar words. Phonemic awareness instruction helps all types of children improve their reading, from children who are at-risk, or disabled readers, to normally developing readers. Heggerty's belief is that phonemic awareness instruction is more effective when it makes explicit how children are to apply these skills in reading and writing. He outlines a program of instruction titled, *Phonemic Awareness: The Skills That They Need to Help Them Succeed!* that doesn't consume long periods of time, just 12-15 minutes a day. Heggerty's lesson format will be discussed in a later chapter of this paper.

Ball and Blachman

Eileen Ball and Bernita Blachman cite reports regarding phoneme awareness and its relationship to reading. They conducted studies that demonstrate that language tasks that measure phoneme awareness are related to success in the early stages of reading and spelling. There have been several studies that have shown that good readers outperform poor readers on phoneme awareness tasks, even when differences in general intelligence and socioeconomic status have been controlled (Rosner & Simon, 1971). Many

studies including Blachman's, have found performance on phoneme segmentation tasks to be predictive of success in early reading and spelling. Developing an understanding of the link between sounds of speech and the signs of print is the basic task facing the beginning reader. Unfortunately, preschool, kindergarten, and first-grade students with the poorest segmentation skills are more likely to be among the poorest readers and spellers.

Study of Phonemic Awareness Training in Kindergarten

Ball and Blachman conducted a study to investigate whether or not phonemic awareness training in kindergarten made a difference in early word recognition and developmental spelling. Results indicated that the phoneme awareness treatment group performed significantly better than either the language activities group or the control group. No significant differences were shown between the language activities group and the control group. Participants who received segmentation training improved significantly on the segmenting trained items, but also in the items that were matched-transfer and broad-transfer. There were no significant differences between the three groups in letter-name knowledge, but both the phoneme awareness group and the language activities group achieved higher letter-sound scores than the control group. On spelling, the phoneme training group scored higher than both the language activities and the control group.

Findings

Findings based on the results indicate that letter-sound instruction was effective in improving letter-sound knowledge for both the phoneme awareness and the language activities group. By itself, letter-sound knowledge doesn't improve segmentation skills. Letter-name and letter-sound training without phoneme awareness training did not improve early reading skills as measured by the post-tests. The reading and spelling results reflect the ability of the phoneme awareness group to use the alphabetic code. This study suggests that young children can be taught to segment words into phonemes and when taught in conjunction with letter-name and letter-sound instruction can have an effect on early reading and spelling.

Phoneme Awareness Training

The authors state that this study supports the idea that phoneme segmentation training closely resembles early reading tasks. Failing to provide phoneme awareness training to children with poor skills may have negative effects for these children who are just beginning to read. Phoneme awareness has been shown to be related to early reading success particularly when instruction included the relationship between sound segments and letters. The most sound method of phoneme training includes explicit letter to sound mappings in segmented words. Failing to provide for early phonemic awareness training to children with poor segmentation skills could cause negative side effects later on. In the early reading stage, poor readers are exposed to much

less text than good readers and are also often given reading materials that are too difficult for them, which in turn leads to fewer opportunities to practice emerging reading skills.

Keri Gernand and Michael Moran

Gernand and Moran conducted a study to compare phonological awareness abilities of 6-year-old children with mild to moderate phonological impairments with peers who did not have speech or language disorders. Participants were given one standardized and three non-standardized tests. Each participant was given the Test of Phonological Awareness Skills (TOPAS) that consisted of four subtests: rhyming, incomplete words, sound sequencing, and sound deletion. The non-standardized tests consisted of three tasks: phoneme counting, rhyming, and blending. Participants were tested individually by the author or a graduate student in speech-language pathology.

Results

The results showed that scores on the sound-sequencing subtest were significantly higher than scores on the rhyming and incomplete word subtests. The non-impaired group scored significantly better than the impaired group on the non-standardized phonological awareness tasks. The authors stated that the results of this study were consistent with previous studies that demonstrated that children with phonological disorders perform more poorly than children without phonological impairments on phonological tasks. This study's results indicate that

children with mild to moderate disorders performed more poorly on standardized and non-standardized phonological tests than did a control group of children who did not have phonological errors. Phonological disorders, independent of language disorders, can affect phonological awareness skills.

Implications

The results seem to indicate that children with mild to moderate phonological disorders are at risk for phonological deficits. This means that teachers and other support staff should closely monitor the reading development of children who exhibit these disorders. These standardized and non-standardized assessments could provide valuable information regarding potential later reading difficulties for these students. Teachers should be cognizant of those students who have articulation disorders as that can play an important part in the student's ability to be phonologically aware which can relate to later reading difficulties.

Kristen Ritchey

Each and every day, in kindergarten and first-grade classrooms, children are learning letter names and letter sounds, and how those letters and sounds are represented in words. In essence, they are learning to read. Beginning reading success or failure can set the stage for future academic and occupational success. Identifying students early and providing appropriate intervention can reduce the number of children who struggle with reading. Early identification of

these struggling readers and additional specialized instruction can reduce the need for later special education services. If schools want to identify and provide early intervention to at-risk students then assessment becomes essential. Kristen Ritchey looks at two fluency-based assessments with respect to their ability to identify at-risk children. The measures used were Letter-Sound Fluency (LSF) and Nonsense Word Fluency (NWF). Norm-referenced reading included Word Identification and Word Attack subtests of the Woodcock Reading Mastery Test-Revised (WRMT). Curriculum-based measurement procedures were developed for oral reading fluency. Assessments were administered during the second half of kindergarten and LSF and NWF were administered every three weeks from January-May. The WRMT word identification test was administered at the end of kindergarten and again at the end of first grade. The WRMT Word Attack and ORF were also administered at the end of first grade. A comparison was conducted between LSF and NWF to determine the decision-making usefulness for identifying students who were at risk for reading difficulties. This comparison was done by using established benchmarks and using modified benchmarks. Kindergarten risk status was compared to status on reading assessments at the end of kindergarten and first grade to determine the identification accuracy.

Results

Accuracy results indicated that at the end of kindergarten, being below the LSF benchmark accurately identified 87% of the children who were in the bottom 25th percentile on Word Identification, and being above the LSF benchmark

accurately identified 46% of the children who were at or above the 25th percentile on Word Identification. The authors suggest that the results were able to predict reading status at the end of kindergarten and first grade with some variability. The NWF criteria was most accurate in identifying which students were not at risk. Blending letter sounds suggests that students had more proficient word reading skills, but lack of blending sounds does not always equate to poor word reading skills for all students. Findings suggest that LSF and NWF scores at a single point in time can be used as a valid predictor of beginning reading abilities in kindergarten. Both assessments were able to identify similar students as at risk for future reading disability. LNF and NWF appear to demonstrate similar relationships with concurrent and future reading skill. Established and modified benchmarks both identified similar at risk children, although additional assessments may be needed to identify all students who are at risk. These assessments could be used to identify those struggling readers early so that phonemic awareness instruction could be implemented.

Suzanne Reading and Dana Van Duren

Suzanne Reading and Dana Van Duren focus on when to teach phonemic awareness and how much to teach. The purpose of their research was to add information concerning the optimal time to begin teaching phonemic awareness and the amount of time needed to learn phonemic awareness skills. The study compared the literacy skills of two groups of first grade children who had different levels of reading exposure in kindergarten; one group received explicit instruction

on phonemic awareness in kindergarten and the other group did not. The authors, Reading and Van Deuren, also noted implications for determining the timing and appropriate length of time needed to teach phonemic awareness (PA) to children.

In first grade, both groups received direct instruction in phonemic awareness through systematic PA instructional program. No other systematic instruction was provided to either group during kindergarten and first grade. The PA program was provided daily in the classroom. The Dynamic Indicators of Basic Early Literacy Skills (DIBELS) measured assessment of reading skills of both groups, (NPAK and PAK). DIBELS subtests included letter-naming fluency, phoneme segmentation, nonsense word fluency, alphabetic principle, and oral reading fluency. All participants were testing at the beginning, middle, and end of first grade.

NPAK and PAK groups

Forty-seven children during the 2002-03 year were randomly assigned to one of two kindergarten teachers, with instruction being provided through Getting Ready to Read (a commercially prepared reading program, Houghton-Mifflin). This group is referred to as the (NPAK) No Phonemic Awareness in Kindergarten group, because the program did not target PA skills explicit manner. Forty-five kindergarten children during 2003-04 year were randomly assigned and did receive direct instruction in phonemic awareness through Open Court Reading (a

commercially available, prepared reading program by SRA/McGraw-Hill), so they are called the (PAK) Phonemic Awareness in Kindergarten group.

Nonsense Word Fluency and Phoneme Segmentation Fluency

The median Nonsense Word Fluency (NWF) score of the NPAK children was in the 'some risk' category, whereas the median NWF score of the PAK children was in a 'low-risk' category. On the Phoneme Segmentation Fluency (PSF) subtest the PAK children performed better than the NPAK children at the beginning of first grade. In the middle of first grade, the PAK children continued to perform better on the PSF subtest than NPAK children. At the end of first grade the median PSF scores of both groups continued to be above 35 and in the 'established' category. The median NWF scores of both groups were above 50 and in the 'established' category, and median Oral Reading Fluency scores of both groups were above 40 which is in the 'low-risk' category.

Results and Implications

Although there were significant differences between groups at the beginning and middle testing periods during first grade, by the end of the year, the PSF scores of the two groups did not differ significantly. Systematic PA instruction in kindergarten had a positive effect on the PA skills of the PAK children as indicated by the difference in the PSF scores between the PAK and NPAK children at the beginning of first grade. Results also suggest that systematic PA instruction was successful in teaching PA skills to NPAK children

by the middle of first grade. When considering oral reading fluency (ORF), it seems that a four-month period of systematic PA instruction at the beginning of first grade was just as effective for the development of ORF as was a 13-month period. This may suggest that although PA skills are important precursors to decoding, once mastered, they decrease in importance as children become more skilled. Study results suggest that learning PA skills at the beginning of first grade is early enough to support later reading development, learning these skills can occur in a short amount of time, and learning these skills beyond a sufficient level may not be necessary for improved oral reading.

Closing Thoughts on Chapter Three

Phonemic awareness and phonological awareness are terms that are often used interchangeably, but they are different. Phonological awareness is a broad term that encompasses phonemic awareness. Children need solid phonemic awareness training in order for effective phonics instruction to occur. There are five basic types of phonemic awareness tasks; the ability to hear rhymes and alliteration, the ability to do oddity tasks, the ability to orally blend words and split syllables, the ability to orally segment words and count sounds, and the ability to do phonemic manipulation tasks. The first four tasks can be covered during the kindergarten year, whereas the fifth task is appropriate for middle to late first grade. This leads into Chapter Four which will address types of phonemic awareness instruction and intervention.

Chapter Four

Phonemic Awareness Instruction and Intervention

The key to early intervention is prevention. Joseph Torgesen, from Florida State University's Department of Psychology, offers advice about methods to prevent reading failure and conditions that need to be in place to prevent reading difficulties. Based on current research findings obtained from the National Research Council and the National Reading Panel, there are conclusions that are relevant to preventing reading difficulties in children. The long-term goal of reading instruction is to help children comprehend the meaning of the text they read. This entails providing children with the necessary skills to ensure that they can learn, understand, and enjoy written language. Children must have general language comprehension skills and accurately and fluently identify words in print to be able to make meaning of what they read. Reading comprehension can be maximized through application of effective reading strategies. Often, grade level reading comprehension criteria is used, rather than utilizing printed material at a level that is consistent with each child's general verbal ability or language comprehension skill level.

Word Identification Skills

Typically, poor readers usually demonstrate two kinds of word-level reading difficulties. One kind is when the reader comes to an unknown or unfamiliar word. The poor reader tends to guess the word based on meaning or context clues. The ability to use phonemic awareness skills to identify the word

are usually lacking in a poor reader. Struggling readers generally have difficulty understanding and applying the alphabetic principle when reading unfamiliar words. Students who have reading difficulty experience many more words in grade-level text that they cannot read "by sight" as compared to their peers who are 'average' readers. Phonemic decoding skills affect the development of fluent word reading ability. Inaccurate reading and diminished opportunities for reading practice slows the growth of fluent word-identification skills for poor readers. Skilled readers do not 'guess' the word as poor readers do, they accurately and fluently identify words based on their knowledge of letters and spelling patterns. Early development of phonemic awareness and decoding skills supports children in the acquisition of memory for words that they use for automatic recognition.

Phonological Knowledge

A common cause of early reading difficulty in acquiring accurate and fluent word recognition skills is lack of phonological knowledge. Phonemic awareness makes phonics meaningful. Children who have not developed phonemic awareness skills do not recognize patterns in written words, and have a difficult time making sense of phonics. Many children have adequate verbal ability but are weak in phonological or language processes. For these children, learning to read involves learning to translate between printed text and oral language. Unfortunately, poor readers may be delayed in a broader range of pre-reading skills. They are often delayed in phonological and general oral language skills, which are key components required for good reading comprehension. If general

verbal abilities are weak, then ability to comprehend meaning of what they read may be limited as well.

Methods of Prevention

Torgesen states that there are three elements to ensure that children have adequate reading skills when they leave elementary school. 1) Classroom reading instruction must be skillfully delivered balancing word-level reading with reading comprehension skills in grade kindergarten through third grade. 2) Procedures need to be in place to accurately identify students who fall behind in early reading skills. 3) At-risk students must be provided with intensive, explicit, and supportive reading instruction, which may or may not be in addition to regular classroom instruction. Regular classroom reading instruction that includes critical components of early reading instruction such as phonemic awareness and decoding skills, word reading and text processing fluency, comprehension strategies, vocabulary, spelling and writing skills is more effective than instruction that doesn't include these elements as based on recent summaries of reading research. Explicit instruction that builds and practices phonemic awareness and decoding is particularly beneficial for those students who come to school without pre-reading experiences and opportunities occurring in the home. While some children learn to read in spite of incidental teaching, others do not, unless they are taught in an organized, systematic, efficient way by a knowledgeable teacher using a well-designed instructional approach (Foorman et al., 1998). Phonemic awareness and phonics instruction can help all

students during the *early* stages of learning to read, but one must be cognizant of individual differences in the amount of required instruction based on individual student needs.

Children who are less prepared for learning to read....

There is a great amount of variability among children in their preparation for learning to read. Socioeconomic strata and preschool opportunities play a role in this preparedness. Children who are in the lower SES groups tend to have had fewer opportunities for oral language development and pre-reading skills, such as being read to, rhyming games, environmental print, alphabet letters and sounds, poetry, nursery rhymes, and background experiences within their community. Many have not had the opportunity to be involved in a preschool or early learning environment before entering kindergarten. There could also be neurobiological factors that are genetically transmitted, in addition to lack of adequate instruction and language experience in the child's home or preschool environment. Students that are less prepared for learning to read typically have weaknesses in relation to letters, letter-sound correspondences, and phonological awareness. It is important to teach these students the procedures and strategies for learning words. This may entail explicit and systematic instruction to help them acquire the strategies necessary for decoding. Some studies findings indicate that the most phonemically explicit interventions produced the strongest growth in word reading. Some students, particularly those who are most at-risk, will require this type of intervention.

More Intense Instruction for At-risk Readers

Reading instruction for children that are at risk for reading failure will also need more intensive instruction, in conjunction with more explicit and systematic intervention. More skills and knowledge must be directly taught, which means that a greater number of teaching and learning opportunities must exist for those who struggle with the reading process. Instruction being considered more *intense* means that it must contain more teaching and learning opportunities per day than what occurs in typical classroom reading instruction. At-risk readers learn more slowly than peers and require more repetitions in order to solidify word reading and comprehension skills. More intense instruction will help at-risk readers keep pace with their same-age counterparts. Providing for increased instructional intensity through the use of support staff such as special education teachers and reading resource teachers is one method to increase intensity. Small group instruction is used in addition to regular classroom reading instruction. Children will learn more rapidly under conditions of increased instructional intensity in small group settings than they learn in typical classroom settings of 20-30 students.

More Supportive Instruction for At-Risk Readers

At-risk readers also need instruction that is more *supportive* than for other children. More cognitive support such as scaffolding is required. Scaffolding can include careful sequencing so that skills are built gradually. Skills are

systematically taught and practiced. Teacher-student dialog is another type of scaffolding that can be used to support at-risk readers. In teacher-student dialog, the teacher shows the student what kind of thinking needs to be done in order to complete the task. The interaction is such that the child is led to discover the strategies that are critical to the task, rather than being told what to do.

Maximizing reading growth through both strong classroom reading instruction and more explicit, intensive, and supportive preventive instruction with support staff will decrease the number of struggling readers in our classrooms.

Holly Menzies, Jennifer Mahdavi, and James Lewis: Early Intervention

Menzies, Mahdavi, and Lewis looked at minimizing the occurrence of reading difficulties in first grade through the use of research-based strategies. These research based strategies included: Systematic progress monitoring used for assessing student skills and progress; groups formed with a low student-teacher ratio; and children who lacked phonemic awareness and alphabetic principles were taught using an explicit instructional approach.

The purpose of this study was to document the systematic application of best practices from the literature in a real school setting by actual school personnel, implement the intervention with fidelity, and measure the outcomes. Additionally, the researchers evaluated the progress made by first grade students (specifically, at-risk students with reading difficulties) in reading ability.

The Dynamic Indicators of Basic Early Literacy Skills (DIBELS) was administered weekly to track phonological awareness, in addition to the Developmental Reading Assessment (DRA) given every 12 weeks. This data was used to create small instructional groups based on skill level. Small group instruction was provided with a reduced teacher-student ratio due to Title One funds that were used to hire paraprofessionals to assist classrooms. Each first-grade classroom had two paraprofessionals to assist in leading reading groups Monday-Thursday for 45 minutes. Each first grade classroom had four groups that were led by either a teacher or paraprofessional for the 45 minute time period. Instructional groups were divided into three types: phonemic awareness; decoding and fluency; and guided reading. Phonemic awareness instruction included rhyming stories, daily lessons from *Phonics Chapter Books (Scholastic)*, blending and segmenting tasks, comparing sounds, and rhyming exercises. Introduction of new vocabulary and review of previously taught vocabulary was also included. Dictation and phonological games were used as well. Strategies for letter-sound correspondence and reading connected text for fluency were used in the decoding group, as well as *Making Words* (Cunningham) and writing and dictation activities. Trade books, writing and vocabulary development activities were used with the guided reading group. For the collaboration piece of the study, grade level teams met weekly (along with the literacy coach) to problem- solve curriculum concerns and review student progress. The assessment measures that were used included the Developmental Reading

Assessment (DRA), Test of Early Reading Ability-Revised (TERA-R) and the Dynamic Indicators of Early Literacy Skills (DIBELS).

After examining the tests for simple effects for time, the group classified as proficient, as well as the at-risk group, showed significant growth over time. The at-risk group did grow at a significantly lower rate than the typically performing group. Using the DRA to determine proficiency, 90% of the first-grade students in the sample were grade-level proficient readers at the end of the year. Of the 16 at-risk students, half of them made enough progress to be considered above grade level on the DRA. The authors state that it appeared that the focused, differentiated instruction provided by the intervention had benefits for all readers, not only for the at-risk students. The school's administration and faculty were willing to shift resources and instructional practices to make early intervention a priority in their school. Early and intensive reading instruction must be a priority for schools especially those schools, which serve the at-risk student population.

Shobana Musti-Rao and Gwendolyn Cartledge: Supplemental Reading Intervention with At-Risk Learners

The purpose of Musti-Rao and Cartledge's study was to focus on the effects of a supplemental early reading intervention program on the alphabetic and phonemic awareness skills of at risk students.

The participants were seven boys and one girl ranging in age from 5 years 3 months to 6 years 11 months and were selected from one first-grade and two

kindergarten classrooms located in a large urban district in the Midwest. The eight targeted students all qualified for free or reduced-cost lunches, and the school received Title One funding. Selection of students was based upon screening results in reading on the Dynamic Indicators of Early Literacy Skills (DIBELS) and teacher recommendation. Baseline and progress monitoring measures were collected by administering the Phoneme Segmentation Fluency and Nonsense Word Fluency probes from DIBELS. A researcher-developed curriculum-based pre and posttest was also used with the participants.

The supplemental reading program that was used was Scott Foresman's Early Reading Inventory (ERI), which is a prevention-based program that targets children that are at risk for reading failure in kindergarten or first grade. The program consists of four parts: letter names and sounds; segmenting, blending, and integrating skills; word reading; and sentence reading. The instruction that the participants received in this study was supplemental to their classroom core reading instruction and lasted approximately 20 minutes per group. Select phonological awareness skills, alphabetic understanding, and word reading were followed by further phonological awareness activities, writing development, and letter-sound to word writing during the lessons. Teachers were given a pre and post –intervention survey and importance of effects survey prior to and at the completion of the study. Parents of targeted students also completed questionnaires. Also, a second observer interviewed the students about the reading program.

Phoneme Segmentation Fluency (PSF) scores during the intervention and that 4 of 7 students reached the end-of-year benchmark goal on PSF. Students also made substantial progress on Nonsense Word Fluency (NWF) during the intervention, with five students reaching the benchmark goal at the end of the year. Based on the results of the CBM measure, all students scored higher on the post-test in comparison with the pre-test. Teacher surveys indicated that the intervention was easy to implement and improved the students' skill and overall performance in reading. Five of seven parents agreed that supplemental reading program was effective at addressing their child's reading problem. Student responses indicated that they liked the special reading group and learning new things.

This study's findings are consistent with assertions that early reading skills can be taught as early as kindergarten and that explicit, systematic, intensive instruction can improve at-risk students' reading status. The ERI can be an effective way to provide students with intensive instruction they need to meet benchmark levels. The authors suggest that the lack of progress between fall and winter scores makes a compelling case for early intervention especially if core instruction is not enough.

Supplemental reading intervention with systematic and explicit instruction in phonemic awareness and alphabetic principle was effective in improving scores of at-risk students.

Janice Ryder, Willian Tunmer, and Keith Greaney: Phonemic Awareness Intervention for Struggling Readers

This is a study that was used to determine whether explicit instruction in phonemic awareness and phonemically based decoding skills would be effective as an intervention strategy with struggling readers. Two groups, an intervention group and a control group were selected, with twelve students in each. The intervention group was then divided into four groups of three. All students involved were considered to be struggling readers. The intervention group received 56 sequenced phonemic awareness lessons over a period of 24 weeks. Post-test data, as well as two-year follow-up data, indicated that the intervention program had positive effects for those students in the intervention group.

The students attended a school in New Zealand that is considered to be low to middle income. Based on the Burt Word Reading Test, and poor performance on classroom reading tasks, the bottom 24 scores were determined and 12 matched pairs were formed and randomly assigned to either the intervention or the control group. The 24 children were from four classrooms with 9 European children and 3 Maori in both the intervention and the control group. Based on observations of literacy instruction in each classroom, as well as structured interviews with teachers it was revealed that all four teachers used a remedial procedure known as *Pause, Prompt and Praise* (Glynn, 1994). Pre and post- tests including phonemic awareness, phonological decoding ability,

accuracy of recognizing words in connected text, and reading comprehension were administered to all participants in the study.

During the first three terms (of a four term school year) the intervention program was carried out over 24 weeks using 56 highly sequenced, semi-scripted phonemic awareness and phonemically based decoding lessons. The lessons occurred for 20-30 minutes four days per week, in addition to classroom literacy instruction and were delivered by a teacher aide that had been trained in the program. The lessons were presented in a set format that included: materials required, recap (1-2 minutes), phonemic awareness exercises (5 min.), the main lesson focusing on letter-sound correspondences (10-15 min.) and a reinforcement activity (5 min.). The control group of 12 students was not given explicit training in phonemic awareness and received the standard whole language instruction delivered by the classroom teacher.

The intervention group outperformed the control group at post-test on all measures of phoneme awareness sub test scores. The intervention group post-test mean was higher than that of the control group, suggesting that the intervention program was successful in improving the phonological skills of struggling readers. Follow-up data was collected two years after the intervention program with 10 of the 12 groups. Data indicated that the intervention group significantly outperformed the control group again, indicating that the positive

effects of the program were maintained and had also generalized to word accuracy in text.

Implications based on these findings seem to indicate that a whole language approach to beginning reading instruction is likely to be more effective for children who possess high levels of reading knowledge when they enter school, and that students with low levels of reading-related skills will require structured, teacher-supported explicit and systematic instruction. The authors suggest that a strategy for reducing the reading achievement gap is to emphasize differentiated instruction where reading teachers and remedial specialists use research-based assessment procedures and instructional strategies using phonemically based skills and strategies in early reading acquisition. Struggling, at-risk readers will almost always benefit from explicit and systematic teaching of alphabetic coding skills in isolation and within reading connected text, combined with opportunities to practice and receive feedback on application of strategies during text reading.

Assessment

Systematic assessment for early identification must be part of any school-wide program to prevent reading difficulties. In kindergarten, an instrument that assesses phonemic awareness, letter-sound knowledge, and vocabulary will identify most children who are at-risk for failure. Recommendations are that assessments to monitor reading growth occur at least three times per year during

first, second, and third grade. After reading instruction has begun, children who are falling behind in reading words accurately and fluently can be identified by measuring that skill directly. Published tests such as Dynamic Indicators Basic Early Literacy Skills (DIBELS), the Phonological Awareness Test (PAT), Test of Word Reading Efficiency (Torgesen, Wagner, & Rashotte, 1999), Phonological Awareness Assessment, Yopp-Singer Test of Phoneme Segmentation, or Test of Phonological Awareness (TOPA by Linguisticsystems) can be used. Informal assessments such as teacher observation and student work samples of independent writing and invented spelling can be particularly useful. Procedures to identify children in need of extra instruction must be done in a timely and accurate manner, so that teachers can provide intensive, explicit, and supportive instruction to those struggling readers.

Closing Thoughts on Chapter Four

Many studies support that systematic, explicit, and structured phonemic awareness instruction should be the building blocks for learning to read, while some research studies suggest that phonemic awareness instruction doesn't have to be the first step in teaching children to read and write. The development of phonemic awareness can be situated just as effectively within the context of language development and metalinguistic awareness. Phonemic awareness is supported through immersion in oral and written language experiences that build a strong language base. Rhymes and stories help children develop concepts of print, vocabulary knowledge, and awareness of the sounds of language.

Alliterative play and rhyming games foster phonemic awareness. Syllable segmentation helps children to hear parts of words, and onsets and rimes further that knowledge into smaller chunks. The smallest units are the individual phonemes and the ability to segment, blend, and manipulate these phonemes when reading and writing. Whichever approach is implemented with beginning readers, it is important that some type of assessment occurs, whether formal or informal, so that differentiation for individual students is provided.

Chapter Five

Teaching Applications

How do children become phonemically aware? The ability to manipulate and segment sounds in speech can be explicitly taught or facilitated in less direct and spontaneous ways. Providing children with a language rich environment full of word play opportunities using rhymes, stories, poems, songs and texts is a natural way to involve children in phonemic awareness. Young children are naturally interested in experimenting with the sounds of spoken language. Word play fosters this experimentation of speech sounds and impacts literacy learning. Those who teach beginning readers need to be aware that children rarely discover phoneme segments spontaneously through everyday experience with language, but can acquire phoneme awareness and word analysis skills with instruction (Shankweiler and Fowler 2004). Also, later reading instruction must be coordinated with early phonemic awareness training to produce successful readers.

Three Key Ideas to Remember....

Hallie Kay Yopp discusses three key ideas to remember when implementing phonemic awareness instruction in the classroom. 1) Phonemic awareness activities must be child appropriate (International Reading Association, National Association for the Education of Young Children NAEYC, 1998). Adams and Bruck (1995) and Beck and Juel (1995) support the use of songs, chants, word sound games, word play, nursery rhymes, Dr. Seuss

rhymes, and storybooks within the classroom setting to develop children's sensitivity to the sound structure of language. 2) Phonemic awareness instruction should be purposeful and deliberate. It should not be accidental instruction, but rather, intentional keeping the goal of phonemic awareness development in mind. 3) Phonemic awareness instruction is only part of a broader literacy program within the classroom setting. Phonemic awareness instruction is only important in the context of comprehensive reading instruction. Activities should be placed in context of real reading and writing. Phonemic awareness both supports literacy development and is an outcome of literacy.

Using Books for Developing Phonemic Awareness

One of the most practical and accessible methods to enhance phonemic awareness in young children is to use children's books that play with speech sounds through alliteration, rhyme, assonance or other types of phoneme manipulation. The first step in using read-aloud books is selecting the books to use. Choose books that make obvious the use of alliteration, rhyme, phoneme substitution or segmentation. Language play in the book should be explicit and the dominant feature of the book so that children will 'key in' to the language used within the book. Secondly, the vocabulary and story lines should be appropriate for young children at the kindergarten or first grade level. Third, the books should easily lend themselves to extended language play, so that the story could be extended further. Yopp's article titled, "Read-Aloud books for Developing Phonemic Awareness: An Annotated Bibliography" offers helpful

criteria for selecting books, how to use these read-alouds, and lists over 44 titles that support language experience and phonemic awareness. [List of read-aloud books can be found in the Appendix]. Yopp provides simple guidelines as to how to use read-aloud books to help children become phonemically aware. Read the story aloud several times so that children can enjoy and share it. Comment on the language use in the book, allowing the children to discover for themselves the word play features of the story. Encourage predictions of sounds, words or phrases that the author uses in the story. Also, children can create additional versions of the story using the language pattern from the read-aloud.

When? How Much Time Will It Take?

When should phonemic awareness instruction take place? Usually, advocates of phonemic awareness recommend that instruction take place beginning in kindergarten and extending through first grade, or even second grade depending on the individual student and their skill level. How much time should be spent on phonemic awareness instruction? Current research recommends anywhere from 10-20 minutes daily ranging from 15 weeks on up. Relatively modest amounts of time result in increases in phonemic awareness performance (Yopp, 1997). Instruction usually occurs daily but can also be effective when it occurs 2-3 times per week. Be cautious that these are just guidelines, not time requirements. Individual differences among learners must be taken into account. The quality of the instruction and the responsiveness of the

instruction to the individual in the classroom should be the determining factors as to how much time is devoted to phonemic awareness instruction.

Phonemic Awareness Sequence:

The first step in developing phonemic awareness activities is to identify the task on which the teacher wants to focus. Next, use developmentally appropriate activities that are game-like and playful, which will engage children in the task. Most research indicates that there is a sequence that can be followed when implementing phonemic awareness in young children. Typically, the sequence begins with immersion in oral and written language experiences to develop a strong language base, vocabulary knowledge, and promote understanding the functions and forms of print, in addition to the sounds of language. Alliteration and rhyming activities follow. Next is segmentation of syllables, hearing parts of words. Then, onsets and rimes are the next step. Finally, phonemic segmentation, blending, and letter-sounds correspondences follow. This sequence is not to be looked at as a rigid sequence that is 'set in stone'. Children do not have to master one phase before being presented with experiences from another phase. Teachers can provide children with opportunities that help them notice and use letters and words through word walls and alphabet centers. Phonemic awareness is supported by children using invented spelling and language experience approaches (children dictate and teacher records/writes). Modeling reading for meaning, and phonemic problem solving strategies, through the use of read-alouds helps children develop phonemic awareness. Environmental print, Big Books, poetry, rhymes, and

patterned stories can provide opportunities to model, demonstrate, and teach phonemic awareness. Most importantly, the activities must be meaningful to children so that connections to authentic reading and writing occur.

*The next section will outline some resources and examples of phonemic awareness activities that can be used in the classroom.

In Patricia Edelen-Smith's article, *How Now Brown Cow*, she offers some guidelines for planning phoneme awareness activities.

-Identify the precise phoneme task that is the focus and select developmentally appropriate, fun, and exciting, not 'drill and kill'.

-Use phoneme sounds, not letter names

-Continuant sounds such as /m/, /s/, /l/, are easier to manipulate than stop consonants such as /t/, /g/, /p/.

-Initial sound position is easiest, followed by final sound position, with medial position being the most difficult

-Consonant/vowel (CV) or consonant/vowel/consonant (CVC) patterns should be used when identifying or combining sound sequences before using vowel consonant patterns (VC).

When focusing on onset-rime tasks, creating a word family chart or individual reference books can be helpful. Having students listen for rhyming word pairs and which word doesn't belong (odd word out) are entertaining games for children. For syllable counting tasks, tapping the desk, clapping hands, or marching in place can be used. Two syllable words or compound words are

easiest for children to discern the word parts. For sound blending, Edelen-Smith recommends teacher modeling blending an initial sound onto the remainder of a word using a jingle or song format, or using a guessing game in which a puppet or stuffed animal says words broken into syllables and then students must guess the word the puppet spoke. For blending sounds, songs such as "If You're Happy and You Know It" can be modified to "If You Think You Know This Word, Shout It Out" in which the teacher says a segmented word /t/-/a/-/p/ and children say the blended word. For sound segmentation, use visual and tactile cues such as markers, counters, pennies, or Elkonin sound boxes to help children hear sounds in words. One marker/counter/penny for each sound, not each letter. For example, 'fish' would have three sounds, even though it consists of four letters /f/i/sh/. Card games such as Snap and Memory can be used as well as dominoes and bingo type games for reinforcing word-to-word matching skills.

Listed below are activities from the article titled, *Phonemes in Use: Multiple Activities for a Critical Process*

By Patrick C. Manyak

Recent research suggests that instruction that helps children attend to vocal gestures (the ways that we position our mouths as we produce phonemes) is effective in developing PA and has a + effect on students' word reading. [Most helpful at the beginning of PA instruction] *Castiglioni-Spalten & Ehri 2003.*

Instruction involving segmenting and blending phonemes combined with a focus on letter that represent those phonemes contributes greatly to success in beginning reading and spelling.
National Reading Panel NRP

Activities:

Beginning-Middle-End [Words Their Way]

- 1) Place letters of a 3-4 letter word face down in a pocket chart and tell S's word (ie: man)
- 2) T and S sing song to tune of "Are You Sleeping?" Beginning, middle, end; beginning, middle, end/Where is the sound? Where is the sound/ Where's the mmm in man? Where's the /m/m/m/ in man/Let's find out. Let's find out."

After the song, 1 S comes forward, picks the position(beg/mid/end) and turns letter card over.
 "Does this letter ___ make the 'mmm' sound.
 Repeat with other sounds in the word.

Say-it and-move-it [Road to the Code]

- 1) Move tiles on at a time from the top of the paper down to a line at the bottom, saying each corresponding phoneme.
- 2) Run finger under word and blend phonemes together

Use letter tiles and blank tiles. Letter tile for letters they are learning and blank tiles for all others, usually vowels.

Scaffolded Spelling

S's stretch out the phonemes , writing the letters that correspond, and reading the words that they have written.

- 1) Introduce word and ask S to stretch out sounds-out hands to lips and stretch it out like bubblegum, slowly pulling hand away.
- 2) Stretch word again and stop after the first sound of the stretch
- 3) What letter makes that sound?
- 4) S's write letter on white board, repeat until all sounds are shown
- 5) Read list of words

Word Mapping

Use laminated word chart

The word is _____

It has _____ sounds

It has _____ letters,

Because _____.

- 1) Announce high frequency word to be mapped/
- 2) T and S segment word together
- 3) Count *phonemes*
- 4) Write # of phonemes on chart
- 5) Write word, ask S to count *letters*, adds # to chart

Word Wall Boxes

Daily review of 3 previously introduced high-frequency words

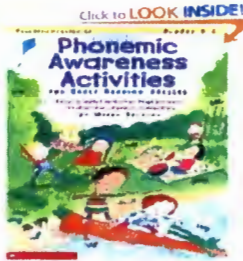
- 1) Elkonin boxes
- 2) S chooses word from wall
- 3) T asks S to cross out any boxes that are not required for phonemes in word
- 4) Stretch out and write sounds in boxes

Resource book titles to promote Phonemic Awareness:

Wiley Blevins

Phonemic Awareness Activities for Early Reading Success (Grades K-2)

Phonics from A to Z

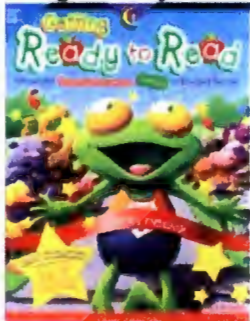


Jo Fitzpatrick

Phonemic Awareness: Playing with Sounds to Strengthen Beginning Reading Skills



Getting Ready to Read: Independent Phonemic Awareness Activities



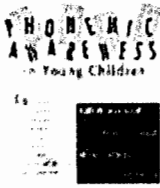
Janiel Wagstaff

Irresistible Sound-Matching Sheets and Lessons



Marilyn Jager Adams

Phonemic Awareness in Young Children: A Classroom Curriculum



Michael Heggerty- *Phonemic Awareness: The Skills That They Need to Help Them Succeed*

Conclusion

In conclusion, teachers should provide children with language rich environments in which spoken and written language is used to learn, to communicate, to understand the ideas of others, and in which language itself is examined and explored. Literacy development is supported to the fullest when programs are rich in both content and form of language. Phonemic awareness alone is not sufficient enough to support struggling readers. Above all, children need access to a wide variety of reading materials and books, opportunities to practice reading, motivation to read, time to read in real texts, supportive instruction in reading strategies, confidence and self-esteem and high expectations for success.

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