A Phonological Awareness and Beginning Phonics Program

SPIRE Foundations: Sounds Sensible® Research Paper

By Ernest Balajthy, Ed.D.

Teaching Reading and Literacy

After almost a half-century of confusing debate about methodology in the field of reading and literacy, the past fifteen years have seen a growing consensus among researchers and theorists in the field. This consensus has centered on several important factors related to reading and literacy instruction that appear to be solidly based on research, indicating that they have powerful influences on achievement:

- Exemplary instruction
- Differentiated instruction
- Phonological awareness instruction
- Explicit, systematic, and sequenced word identification instruction
- Rich, integrated experiences in reading and literacy from early childhood on

Classroom instruction should be exemplary. Quality of teaching has long been recognized as a key factor in reading and literacy instruction, as in the common phrase, "The teacher makes the difference." The U.S. Office of Education's First Grade Studies (Bond and Dykstra, 1967/1997), an early major effort by the federal government to identify effective approaches to teaching reading, found that differences among teachers played a crucial role in determining effectiveness of instruction. Chall and Curtis (2003) noted that two factors related to exemplary teaching have been found to be particularly important: (1) well-defined instructional objectives that connect new learning with what children already know; and (2) opportunities to apply and receive feedback on the new knowledge and skills.

Research also strongly supports the role individual variation among students plays in reading and literacy development. The key question of most research in education is not "Is this instructional strategy effective?" That question is often answered at early stages of research about a particular strategy. Rather, researchers today focus on the questions, "With whom is this instructional strategy effective? What are the individual student traits that allow the strategy to be more effective for some and less effective for others?"

SPIRE Foundations: Sounds Sensible® is a multisensory, systematic program designed for grades Pre-K to 1 that incorporates phonological awareness and beginning phonics instruction. The SPIRE Foundations: Sounds Sensible kit has all the necessary materials for the program: a teacher's manual, blackline masters, word and picture cards with easily identifiable illustrations, and games.

The past several decades have also brought about an increased interest in phonemic and phonological awareness, the abilities to deal with the basic sound units of language. These skills have been widely recognized by key researchers (Stanovich, 2000) and federally funded committees attempting to synthesize research results (National Reading Panel, 2000; Snow, Burns, and Griffin, 1998) in order to identify early critical foundations of later reading success.

Over the past forty years, the major surveys of research on early reading have repeatedly concluded that word recognition is best learned when it is taught according to three principles. It should be explicitly taught by the teacher, systematically planned and organized, and sequenced in a fashion that moves from simple to complex, covering all major elements (Chall, 1967/1996; Adams, 1990; Snow, Burns, and Griffin, 1998; National Reading Panel, 2000).

Limiting instruction to the basic subskills of reading will provide no child with reading and literacy understandings of crucial importance in lifelong learning. From the earliest stages of children's development, parents, caregivers, and educators must provide a rich array of literacy activities. These activities can be as simple as reading storybooks aloud to children, but the children's active involvement in responding to literacy activities in a variety of ways is important. Educators do not look upon children as passive recipients they can pour information and knowledge into. Instead, the current psychological picture of the young reader is as an active maker of meaning who constructs and verifies hypotheses about those meanings in the context of daily interactions with print materials (Tierney and Sheehy, 2003).

This review of research will focus on the second of the issues listed above, that of phonological and phonemic awareness in the context of *SPIRE Foundations: Sounds Sensible* (2nd edition), a phonological awareness and beginning phonics program published by Educators Publishing Service. It will also expand on that issue in terms of the other four key research themes: exemplary instruction; differentiated instruction; explicit, systematic, sequenced instruction; and enriched instruction. The review will be organized according to the developmental processes involved in the mastery of the processes leading up to fluency in word recognition and to the complete reading process.

SPIRE Foundations: Sounds Sensible is research-based and time-tested to help you meet the goals of Reading First and the No Child Left Behind initiative. Based on Orton-Gillingham principles, SPIRE Foundations: Sounds Sensible offers structured, sequential, hands-on instruction—making it uniquely effective as part of an intervention, a remedial, or an inclusion program, or as a core program in beginning reading classrooms.

Phonological Awareness

In their work with children who have problems acquiring early literacy, Balajthy and Lipa-Wade (2003) described phonological awareness in the following way:

> Phonological awareness is a general term referring to an awareness (i.e., an ability to focus on and manipulate) of the sounds of words and their components... Phonological awareness includes phonemic awareness (specific ability to manipulate individual phonemes,minimal sound units such as the /v/ in *vat* and the /f/ in *fat*), as well as such aspects of language as onsets (the initial letter sound[s] in a word, such as /b/ in *book* or /spl/ in *splash*), the sounds of syllables, and rhymes (p. 33).

But before looking deeper into questions about phonological awareness, it is important to deal with the question, "What is reading?" That question has been answered in many ways, but one influential current model is sometimes known as the Simple View of Reading (Juel, Griffith, and Gough, 1986; see also a similar model offered by the researcher and theorist Keith Stanovich, 2000). This model suggests that reading is composed of two major components, decoding and listening comprehension, and that decoding and its related phonological/phonemic skills play the crucial role through the second grade and listening comprehension a gradually increasing role thereafter.

The child's early experiences in reading and literacy, those emergent literacy activities that precede and eventually develop into conventional literacy, play a critical role in the child's future success. Successful early reading leads to increased time-on-task in actual reading, which in turn leads to future successful reading achievement. Cunningham and Stanovich (2003), for example, noted that "the increased reading experiences of children who master the spelling-to-sound code early thus might have important positive feedback effects that are denied the slowly progressing reader" (pp. 666–667). Cunningham and Stanovich's 1997 longitudinal study found that a successful start in reading acquisition, meaning a successful experience in cracking the spelling-to-sound code through phonological awareness and decoding, led to improved future reading achievement as late as the eleventh grade.

Additional research indicates that phonemic awareness tasks are the best predictors of success or lack of success in beginning reading achievement (Adams, 1990). "Insufficient awareness of the sound structure of words (phoneme awareness) is a central deficit in failing readers" (International Dyslexia Association, 1997).

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Phonological Awareness and Word Identification

In 2000, the Committee on the Prevention of Reading Difficulties in Young Children published the findings of their extensive study of research on early reading and literacy development (Snow, Burns, and Griffin, 1998). This committee, which had been appointed by the National Academy of Sciences at the request of the U.S. Department of Education and the U.S. Department of Health and Human Services, had examined hundreds of studies in an effort to address a wide variety of issues related to early reading development.

Among their findings was the suggestion that the ability to identify words in skilled reading can be conceptualized as a three-stage process, building up from the visual processes to the phonological decoding processes to the experiential processes:

> ## Three-Stage Process: The Ability to Identify Words in Skilled Reading
>
> 3. Experience and Fluency Processes
> 2. Phonological Decoding Processes
> 1. Visual Processes

Snow, Burns, and Griffin (1998) pointed out that this process of word identification is a "necessary . . . factor for comprehension" (p. 65). A skilled reader's word identification process begins with the visual process that focuses the eye on the visual forms of letters in a word. As the visual process occurs, other processes, the most important of which are phonological decoding processes, are immediately brought to bear.

Snow, Burns, and Griffin (1998) acknowledged that researchers and theorists differ as to just how the visual information interacts in the mind with the phonological information. Researchers and theorists might, for example, differ in their findings as to how much the phonological decoding subprocess called sublexical phonology (the process of pronouncing portions of a word formed by a string of letters within the word, that is, use of spelling patterns) is active in the word identification process. But there is clear consensus that such use of spelling patterns plays a crucial role in word identification. Their investigations were able to draw some important conclusions: "The research on reading in alphabetic writing systems has developed an important consensus that phonological decoding is a routine part of skilled word identification" (p. 65), that phonological abilities play an active role during word identification and that phonological word forms (the sounds of the words) are associated with the words' meanings. Similarly, Stanovich (2000) concluded from his research that phonological deficits are at the heart of the problems of poor readers.

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The close relationship between visual and phonological processes and word identification might seem apparent, but it has actually been the source of debate for some years. Some experts in reading have suggested that reading should not be conceptualized as an exact process of word identification, that in fact, skilled readers make more use of context than phonological or decoding processes. Snow, Burns, and Griffin (1998) suggested that this contention be laid to rest, as clear evidence has long existed that skilled readers do focus on most words and that less skilled readers actually are forced to depend more on general context for word identification (Stanovich, 2000).

The final stage of Snow, Burns, and Griffin's word identification model posited that experiences with print build fluency and automaticity in word identification. While phonological processes and orthography—knowledge of spelling patterns—play an important role in word identification, so does the fluency made possible by a significant amount of time spent reading printed words.

Teaching Phonological Awareness

Along with the awareness that phonological processes play a crucial role in reading development, comes the good news that research shows children can be taught phonological awareness.

The well-established body of research on phonological awareness has yielded a number of conclusions about just how to teach it and to whom to teach it. It is apparent that children's understanding of phonological awareness is not acquired spontaneously (Adams, 1990; National Reading Panel, 2000), at least not in sufficient amounts. Instruction in phonological awareness should be "systematic, thorough, and explicit" (National Reading Panel, 2000, pp. 2–34). Chall and Curtis (2003) also noted that a number of studies suggest "if one waits for readiness skills to emerge, and does not intervene, the child at risk will not make it" (p. 416).

For example, engaging in phonemic awareness tasks has been demonstrated to lead to future improvement in the learning of letter identification and of spelling (orthographic) patterns within words (Adams, 1990). Even with young children who are at risk due to personal, socioeconomic, or educational factors, there is solid support for early instruction in phonemic awareness (Chall and Curtis, 2003; Snow, Burns, and Griffin, 1998).

This includes support for phonological awareness training for the children with the most serious reading difficulties. Snow, Burns, and Griffin (1998) concluded from their review of the research that "intensive training [in phonological awareness], even over relatively short periods of time, can substantially improve the word-reading skills of children with serious reading disabilities and . . . these positive outcomes are maintained over months or years after the cessation of training" (p. 254).

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Adams (1990) suggested that phonological awareness abilities proceed through a sequence of stages, beginning with rhyming. A next stage involves the ability to compare rhymes and indicate which words fit or do not fit a phonological pattern. Adams called these *oddity* tasks, in which a child is asked to pay attention to initial sounds in a group of words and identify which word does not fit (for example, in the series *pig, hill, pin*, the word *hill* does not have the same initial sound as *pig* and *pin*). Ability to blend and split words into syllables is the next stage, followed by ability to analyze words into their component phonemes, and then ability to add, delete, or move phonemes within words.

Phonological Awareness Abilities

5. Adding, deleting, moving phonemes
4. Analyzing words (segmenting)
3. Blending/syllable segmenting
2. Oddity tasks
1. Rhyming

In addition to research that has clearly established the benefits of phonological awareness instruction for beginning readers, studies have investigated its potential for helping older, struggling readers. This research suggests that the effect of phonological awareness instruction remains positive, but the effect is less powerful with older students. It may be that development of phonological awareness is more difficult for such readers and that an increased amount of instruction and more intensive instruction are called for (National Reading Panel, 2000).

Teaching Phonological Awareness and Beginning Phonics with SPIRE Foundations: Sounds Sensible

SPIRE Foundations: Sounds Sensible addresses the principles of best practice as set forth by leading researchers in the field of early literacy, principles that have been recognized in the No Child Left Behind Act as well as in the sets of professional standards published by organizations such as the International Reading Association (1996) and the International Dyslexia Association (1997).

The five key principles of early reading instruction, described at the beginning of this paper, are all incorporated in the program. *SPIRE Foundations: Sounds Sensible* lesson plans provide teachers with engaging tools designed to systematically and successfully guide students to comprehensive abilities in phonological awareness and beginning phonics. As they proceed through these lessons, teachers improve both

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student learning and their own knowledge of teaching, so important in the development of exemplary teachers. SPIRE Foundations: Sounds Sensible lessons are flexible in nature, allowing teachers to differentiate instruction according to the needs of their individual students but still providing the depth of learning necessary for children to have a successful start in learning to read.

SPIRE Foundations: Sounds Sensible provides a sequenced lesson plan structure designed both to emphasize foundational aspects of phonological awareness on a regular basis, as well as to gradually move children through a developmental process from emergent levels of literacy to early reading. Throughout, student engagement is enhanced by multisensory instruction based on an Orton-Gillingham model of instruction, game-like activities, and rich literacy experiences. Each *SPIRE Foundations: Sounds Sensible* lesson contains a literacy component designed to begin the process of moving children from the skills of early reading to the beginnings of a lifelong love of and commitment to literacy.

Listening Activity: Same or Different and Read-Alouds

Each day's SPIRE Foundations: Sounds Sensible lesson begins with the Listening Activity. On alternate days, students learn to compare and contrast words, indicating whether two words are either the same or different (for example, pam-b*am, bat-bat*). Young children struggle with this concept, and the *SPIRE Foundations: Sounds Sensible* program provides manipulatives that help children indicate whether the words are the same or different.

Read-Alouds alternate with Same or Different tasks as part of the Listening Activity. Teachers choose high-interest books to read aloud to the students. This activity supplies balance to a program that is largely focused on letter- and word-level learning. Teachers track words as they read aloud in order to help students understand the print-to-speech connection, the concept of a word in text (an important understanding that has an interactive effect on improving phonemic awareness (Morris, Bloodgood, Lomax, and Perney, 2003), and directionality. Readings are followed by discussions centered on story comprehension. Favorite books are reread.

Reading aloud to children is associated with increased achievement (Sulzby and Teale, 2003). In *SPIRE Foundations: Sounds Sensible* read-aloud lessons, children learn the important abilities to repeat sentences and recall stories. The listening comprehension and expressive use of language involved in read-alouds are recognized as a key objective in the Early Reading First program funded under the No Child Left Behind Act (U.S. Department of Education, 2002). Leppanen, Niemi, Aunola, and Nurmi (2004) identified listening comprehension as one of the three major antecedents to reading, along with phonological ability and letter knowledge (p. 76). They found that the latter two factors play a particularly important role at the earliest stages of reading instruction, and that listening comprehension becomes more important during first grade.

As they proceed through these lessons, teachers improve both student learning and their own knowledge of teaching, so important in the development of exemplary teachers.

Rhyming and Onsets/Rimes

The Listening Activity is followed by the day's Rhyming Activity. Students' understanding of this phonological awareness strategy is developed in a sequence of five steps during the course of SPIRE Foundations: Sounds Sensible. First, students are introduced to blending onsets (the part of a one-syllable word that precedes the vowel, as /t/ in tub or /spr/ in spring) and rimes (the vowel and following consonants in a one-syllable word, as /ub/ and /ing/) using a hand motion, which helps make a concrete process of a conceptual abstraction. In later weeks they move on to more sophisticated rhyming tasks: matching rhyming words, generating their own rhymes, categorizing rhymes, and finally using rhymes with segmentation and blending.

As with SPIRE Foundations: Sounds Sensible, rhyming is the first stage in Adams' five-stage model of phonological awareness development (1990). The National Reading Panel (2000) surveyed research to find that some phonological awareness tasks, such as rhyming, are easier than others. The panel suggested that instruction in phonological awareness might best position these easier tasks early in the instructional sequence. The Early Reading First initiative of the No Child Left Behind Act identifies rhyming as a key objective (U.S. Department of Education, 2002).

Adams (1990) concluded from her review of the research that onsets and rimes pose particular challenges for young children. Mastery of these tasks should precede more difficult learning tasks, such as those involving the middles of words (National Reading Panel, 2000), and that suggestion is reflected in *SPIRE Foundations: Sounds Sensible*.

Blending

Blending is especially emphasized at the fifth stage of the Listening Activity in SPIRE Foundations: Sounds Sensible. Students work orally with segmented word parts, pronouncing words phoneme by phoneme. Teachers are encouraged to describe this phoneme-by-phoneme pronunciation as "robot talk" in order to better communicate the form of the activity. Children move from blending onsets and rimes (e.g., /k/ /ab/ /kab/) to the more complex task of blending individual phonemes (/k/ /a/ /b/ /kab/).

Blending is another key component task in early reading, the third stage of Adams' five-stage sequence described above (1990). The National Reading Panel (2000) identified blending instruction as one of the two phonological awareness instructional methods to make the most difference to later reading achievement. Blending is also a key objective of the Early Reading First initiative (U. S. Department of Education, 2002).

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Segmentation

SPIRE Foundations: Sounds Sensible's Segmentation Activity develops students' abilities in a sequence of steps that move toward increasing sophistication. Students start by segmenting sentences into their component words, and then learn to segment compound words into their roots (for example, Batman = bat and man) and multisyllabic words into their syllables (insect = in and sect). The final instructional sequence deals with individual sounds, as students learn to isolate phonemes, then to segment words into their component phonemes, and finally to carry out phonological manipulations with individual phonemes (for example, the teacher might request, "Say *cat* again, but don't say /k/").

Segmentation is a key contributing skill in early reading (Adams, 1990). The National Reading Panel (2000) found that segmenting is one of the two most powerful instructional methods in developing phonological awareness. Segmenting is a key objective of the Early Reading First initiative (U.S. Department of Education, 2002).

In its summary of research on the comparative difficulty of phonological awareness tasks, the National Reading Panel (2000) indicated that syllabication, which involves dealing with larger spoken units, appears to be easier than tasks that involve dealing with individual phonemes. SPIRE Foundations: Sounds Sensible segmentation instruction begins with the large chunks of language (sentences, words) and progresses to smaller ones (single syllables, phonemes).

Letter Identification and Phoneme-Grapheme Relationships

The fourth part of each day's lesson plan in SPIRE Foundations: Sounds Sensible has to do with development of students' understanding of phoneme-grapheme relationships. Students learn the letter name (that is, letter identification) and its sound, and they learn to print its lowercase form. They engage in a variety of games to review and reinforce learning.

The visual process, the first stage of word recognition in Snow, Burns, and Griffin's (1998) three-stage model that was described earlier, largely involves letter identification. In her survey of research on early reading, Adams (1990) found that instruction in phonemic awareness leads to little growth unless children are first taught to recognize printed letters. Of all the early literacy-related tasks, it is letter naming—the simple identification of the names of the letters of the alphabet—that is the most important correlate of early success in reading (Adams, 1990; Snow, Burns, and Griffin, 1998). But it is apparent that simply drilling children on the names of the letters is not sufficient. Letter naming tasks are an indication of familiarity with letters, and it is that familiarity or awareness of letter forms that is the important

SPIRE Foundations: Sounds Sensible's Segmentation Activity develops students' abilities in a sequence of steps that move toward increasing sophistication.

aspect of this skill (Adams, 1990. The National Reading Panel (2000) also warned that teachers should not be satisfied with a superficial level of letter identification knowledge on the part of their students. Letter identification should be overlearned for adequate fluency and SPIRE Foundations: Sounds Sensible provides more than sufficient practice to allow for letter identification mastery.

The study of phoneme-grapheme relationships such as occurs at this step of the SPIRE Foundations: Sounds Sensible daily lesson plan is an early phonics task, one that also develops phonological awareness (National Reading Panel, 2000). Use of printed letters in conjunction with phonological awareness tasks provides for a better transfer of knowledge to actual reading because of its closer connection to the actual reading process. The International Reading Association and the National Council of Teachers of English recognize the importance of "understanding textual features" such as "sound-letter correspondence" in the third of their Standards for the English Language Arts (1996). Alphabet knowledge is also a key objective of the Early Reading First initiative of the No Child Left Behind Act (U.S. Department of Education, 2002).

Adams (1990) compared a variety of early reading curricula to determine which phoneme-grapheme correspondences were explicitly taught. She found a wide variation among various curricula, but that all were in agreement that the 21 consonant sounds (including the consonant sound of y) and the short vowels should be taught early on. The *SPIRE Foundations: Sounds Sensible* scope and sequence of phonemes consists of 20 consonant sounds and the short a vowel sound.

Dictation

The final step in the day's SPIRE Foundations: Sounds Sen*sible* lesson is the Dictation Activity. First, students print letters and then one syllable words. This serves to reinforce and review letter identification and phoneme-grapheme correspondences by use of a multisensory task. Writing has been shown to support letter knowledge and phonological awareness (Silva and Alves-Martins, 2002; Snow, Burns, and Griffin, 1998).

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Conclusion

The extensive research carried out to date on development of early reading and literacy has led to clear understandings of the key factors in successful achievement for children and of the basic sequence of learning to identify words in print. SPIRE Foundations: Sounds Sensible provides teachers with an easy-to-understand but professionally sophisticated sequence of instruction and with high-interest materials that encourage children to engage in the challenging processes underlying early word identification. SPIRE Foundations: Sounds Sensible enables teachers to provide their students with the necessary language foundations that are crucial for lifelong success and enjoyment of reading and literacy.

SPIRE Foundations: Sounds Sensible author Sheila Clark-Edmands, M.S. Ed. has more than 35 years of educational experience, ranging from classroom teaching to undergraduate and graduate college instruction. She has received teaching awards and honors from several school systems, and her work has been featured in the Wall Street Journal and many other general interest and industry publications.

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