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Beginning reading

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Abstract

The purpose of this paper is to review recent literature in whole language, phonemic awareness, phoneme-grapheme correspondence, and alphabetic instruction. The reason for examining the literature is to discern the appropriateness of discrete skills instruction in a whole language classroom for first-grade students at the beginning of the year. This paper begins with an explanation of whole language and of a hierarchy of discrete skills. It concludes with a discussion of the implications for instruction of the research reviewed.

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The purpose of this paper is to review recent literature in whole language, phonemic awareness, phoneme-grapheme correspondence, and alphabetic instruction. The reason for examining the literature is to discern the appropriateness of discrete skills instruction in a whole language classroom for first-grade students at the beginning of the year. This paper begins with an explanation of whole language and of a hierarchy of discrete skills. It concludes with a discussion of the implications for instruction of the research reviewed.

Whole Language

Whole language is a philosophy that offers a variety of real language experiences and materials to form the basis of instruction. It is process oriented with a focus on construction of meaning. Optimum learning occurs when children learn oral and written language skills in real and functional contexts. It is literature driven focusing on comprehension through the use of purposeful and authentic reading and writing.

Prior Knowledge

Learning built on prior knowledge is integral to whole language. Dreher and Singer (1989) consider prior knowledge a personal resource to interact with printed information. Research evidence (Hiebert, 1988; Hall, 1985) points toward children having more literacy awareness than previously assumed. Young children's literacy functions are dictated by the needs and purposes of

language use. Children come to school with a wealthy knowledge of functions of language. Laminack (1990) says young children expect written language to make sense and to have a predictable structure. Children intend to communicate through writing before they realize that writing is an alphabetic code of speech rather than drawings of objects in spoken language. A curriculum that does not include the purposeful use of language to build on a child's prior knowledge would be seriously remiss.

Prediction

Smith (1983) defines prediction as an integral factor of comprehension. It is the thoughtful choice of alternatives. Prediction is essential to the beginning as well as the advanced reader. Goodman (1987) explains prediction as that confirmation inherent in reading involving transaction between thought and language leading to comprehension. Each prediction starts a process of inquiry similar to hypothesis testing, encouraging children to think scientifically by developing conjectures to be confirmed, rejected, or revised.

Prediction as a reading strategy uses clarification first, followed by expectation, and then confirmation of the text. These strategies employ children's life experiences to create awareness of the direct relation between what they know and what they see in print (Chang & Watson, 1988).

Smith (1983) says comprehension is partially embedded in prediction. Prediction is the prior elimination of alternatives

which is an essential element of processing information. The power of prediction is in allowing the reader to clarify readings, to form expectations, and then confirm or reject those expectations.

Predictable Books

The words predictable books and patterned books are used interchangeably. Bridge, Winograd, and Haley (1983) describe patterned books as those having repetitive structures that enable students to predict the next part. After hearing a story, children can join in reading the next word, line, or episode even though they do not recognize individual words. The strong repetitive form of these books may be in the use of repeated phrases, sequences, rhymes, refrains, or story patterns. These books also encourage children to read along before they can read individual words. By reading along while attending to the text, students are exposed to high frequency words in a story which flows naturally (Pickert, 1978). Predictable books help readers hypothesize what authors will present next in the text. It encourages children to use cues in natural language to become proficient, independent readers (Chang & Watson, 1988).

Read-Aloud

Reading behavior will begin very early if children are exposed to oral reading according to Wiseman (1984). Learning to listen is an important skill. As children listen to stories, they realize the direct relation between what they know about language, and what they see in print. Readers of all ages expect structure.

Research by Warwick (1989) focused on vocabulary acquisition from listening to stories. She found evidence of the positive effect of reading aloud. When an appealing short story was read aloud three times to students, they achieved a 40% vocabulary gain on words in that story. Hillerich (1988) says reading aloud helps children hear the patterns of language, thereby helping them think in the language with the additional benefit of creating a desire to read. Allington (1983) reports that children who have been read to have a distinct advantage in learning to read.

Reading-Along

Reading along with a group, an adult, or a recording of a story is sometimes called assisted reading. Reitsma (1988) studied the effects of reading practice for beginners finding that reading the same words in different stories resulted in significant gains in reading. Beginning readers gradually acquire more efficient skills while they are reading. Better readers profited more from practice than less skilled readers, probably because the spoken words do not necessarily coincide with looking at the word.

Independent Reading

Bridge (1979) explains the key to successful reading is experiencing the success of whole book reading, not haltingly, but processing phrases and sentences as chunks of meaning. Employing memory reading from predictable books, students are role playing themselves as successful readers. "The key to making reading easier for the beginning reader lies in finding materials for

initial reading instruction that are easy and meaningful, thus predictable" (p. 504).

Reitsma (1988) draws the following conclusions from his study: Gains in reading achievement are made only when students make an effort to read independently as much as possible. There is a negative relation between being corrected and achievement gains. It is appropriate to relax the demand for accuracy during reading practice and tolerate a high degree of errors for reading achievement to occur. Extensive practice in reading is generally necessary for students to learn to read and become skilled readers. The most common way to increase reading fluency is by practice: therefore, a very important component of reading instruction is providing opportunities for practice. He quotes Stanovich's paradox: "Many children do not read books because they cannot read well enough. They cannot read well because they do not read books" (p. 221). Ehri (1989) says limited reading may result in reading disabilities.

Repeated Readings

Samuels (1979) found that the technique of repeated readings is valuable for building fluency in reading. He urged teachers to use repeated readings to advance children to the stage of automaticity, that is, decoding without attention. His findings indicate fluency was increased through repeated readings thus leaving the mind free to be used for comprehension.

Because reading is a developmental process, focus should be on

learner competence rather than performance according to Allington (1983). Fluency is at least as important a goal as identifying words in isolation. He cautions against word calling which demeans the function inherent in reading.

Beginning first-grade reading in a whole language classroom would include use of prior knowledge, prediction, many predictable books, very frequent reading aloud, reading along, and repeated readings in an accepting atmosphere with a great degree of tolerance for mistakes. A high value would be placed on independent reading, writing, and spelling.

Hierarchy of Discrete Skills

Pearson and Johnson (1978) say that a hierarchy of skills is a teaching convenience which appeals to our sense of logic, but is without much supporting evidence. Separate skills may not exist, let alone separate skills which can be placed into a hierarchy. Sequences are necessary, however, because we cannot teach or learn everything at once.

Mosenthal (1989) explains that the taxonomic linguistic system has been the basis of reading instruction for nearly 60 years. It was devised by linguists to define and analyze a language, not as a teaching tool. Mosenthal suggests that it is time to change to a system less simplistic and more realistic. The vocabulary of linguistic taxonomy is still present in reading research. The following table helps clarify linguistic vocabulary sometimes used in communicating reading research.

Table 1: Swanson's Vocabulary of Taxonomic Linguistic Hierarchy

PURPOSE	MOST COMPLEX DESCRIPTION	DEFINITION
Syntactic	Sentences	relating noun to verb phrases
Syntactic	Phrase structure	rules of how parts of speech go together
Syntactic	Lexicon	words or vocabulary of language
Semantic	Morphemes	basic units of meaning, vowel shifts, prefixes, suffixes
Printing	Syllables	phoneme combinations--one vowel sound
Printing	Graphemes	letters of the alphabet
Oral	Phonemes	individual sounds, critical contrasts, (pat, pet)
Printing	Graphics	picture of letter, curves, lines, and circles
Oral	Phonetics	sound details
	SIMPLEST LEVEL	

Adapted partially from Mosenthal (1989) and Pearson and Johnson (1978)

According to Pearson and Johnson (1978), phonological knowledge includes phonemes (individual sounds), blending, stress, juncture, and pitch. Stress, juncture, and pitch are sometimes spoken of as prosodic features. Prosody is relied on heavily in learning to speak, but there are few signals for prosodic features of written language. Therefore, prosody can be a source of confusion to beginning readers (Allington, 1983). Pidgeon (1976) indirectly defends the use of teaching within a hierarchy. A greater understanding of sound structure is necessary before visual aspects are presented he reports. Beginning readers are not always aware that words consist of utterances of separate language sounds. The sound structure of the spoken language should be learned first, followed by learning the letters which provide visual representations of the language sound units (phonemes). It is reasonable to present the visual characters in whole words to facilitate comprehension, according to Pidgeon.

Phonological Awareness

More recent research has moved away from hierarchical theory to researh in cognitive instruction. Bryant, Bradley, Maclean, and Crossland (1989) found that listening to nursery rhymes in early childhood has a strong connection to reading and spelling. "The strength and specificity of the connection between children's early knowledge of nursery rhymes and their success in learning about written language some years later, suggests a causal hypothesis" (p. 426). Clay (1988-89) comments on Bryant's study speculating

that the link between rhymes and reading success may be through an early sensitivity to the sounds of language.

Lundberg, Frost, & Petersen (1988) conducted a training program to stimulate phonological awareness through games and exercises with preschool children. The study reported that phonemic ability is a powerful predictor of reading and spelling performance. The beneficial effect of extensive training seemed to be considerable, lasting, and transferable to new tasks. Mann (1986) reports that an awareness of phonemes may depend upon learning to read the alphabet and on methods of instruction that attend to phonemic structure.

Cataldo and Ellis (1988) conclude that the interactive development of phonological awareness, reading and spelling proceed in developmental steps leading to the vital ability to manipulate sounds in reading. Stuart and Coltheart (1988) present evidence that not all children pass through the same sequence of stages.

Phonemic Segmentation

Mann (1986) reports that awareness of syllables is not very dependent on reading experience but rather may be a natural cognitive achievement. Lundberg et al. (1988) also found that phonemic segments are more accessible, more salient, and less abstract than phonemes. Children isolate a syllable more easily than a phoneme. Children with superior skill in phonemic segmentation had a clear advantage in learning to read and spell.

Children's formative knowledge of phoneme segments is

powerfully influenced by print. The research of Hohn and Ehri (1983) suggest children may learn how to interpret spellings as maps for pronunciation rather than that phonemic segmentation is a prerequisite of learning to read. Knowledge of alphabetic principles is promoted by phonetic segmentation.

Orthography

Orthography is the symbolic representation of sounds. A study by Hohn and Ehri (1983) found that the use of alphabet letters helps emergent readers learn to divide spoken words into phonemes. They have found that representation of sound works its way into people's ability to manipulate sounds. Hohn and Ehri suggest that letters give learners a mental symbol system for representing and thinking about specific phonemes. Guthrie (1983), however, suspects that the ability to recognize letters may not be the cause, but rather an indicator of successful reading. Letter naming may indicate other forms of knowledge, cognitive practice, and process.

After an extensive review of the literature, Groff (1984) recommends simultaneous teaching of letter name and phonic knowledge because of their highly correlated function. This functional relation should be used to its fullest potential by simultaneous teaching.

Facilitating communication between student and teacher is one advantage of letter name knowledge. McGee and Richgels (1989) refer to thinking and talking about letters and language as

"metalinguistics." Much formal reading and writing depend on this sophisticated knowledge. Often children indicate their first understanding of the relation between letters and phonemes by using invented spellings. Spelling knowledge seems to appear and be applied before reading. Ehri (1989) found that in literary development inventive spelling instruction can begin much earlier than sounding out or blending instruction. Children can invent semiphonetic spelling by using letter cues to read words.

Names of letters serve as a guide to letter sounds. Thus letter names are cues to their sounds in words. Hanson (1989) calls this the core of phonics. Letters are of value because letter forms shape all printed words; the names of letters aid in shaping spoken words according to Durrell (1984). Pidgeon (1974) reminds us that the sounding of consonants by themselves is not possible without adding a vowel sound.

Stuart and Coltheart (1988) found that the developmental stage of children's internal phonological system influences the learning of letter-sounds. They say "Children need to be aware of particular phonemes before they can learn to assign the phonemic property to the letter which correctly represents it" (p. 159). Stuart and Coltheart agree that vowels are more difficult for children to manipulate than consonants. They disagree, however, that consonants are a single group, but rather are divided into three groups dependent on consonantal strength. Strong sounds are learned first.

Ehri (1989) says teachers can instruct students to detect and spell sounds that are not found in letter names, very importantly, short vowels. Once students know basic vowel as well as consonant letter-sound relationships, their sight vocabularies begin to grow rapidly as they practice reading text. This spelling-based approach is quite different from the traditional phonics approach.

The Laxon et al.'s (1988) study of orthographic correspondence found that children gradually learn orthographic structure as an abstraction. Word specific, not generalized, reading and spelling patterns are quickly learned and used by seven-year olds. This study corroborates other orthographic studies, such as Mann (1986) and Barron (1986). Barron refers to regularly spelled words as opposed to exception words, whereas Laxon et al. (1988) call such words friendly orthographic neighbors versus hermits. Leslie and Thimke (1986) also found that first-graders are not often capable of generalizing the rules of orthography.

Barron (1986) found, as did Laxon (1988), that it is easier for children to recognize 'regularly spelled' words than 'exception words.' Stuart and Coltheart (1988) say regular words have an advantage over exception words because they coincide, and do not contradict, a child's expectations.

Hohn and Ehri (1983) found that using letters did not confuse or impede prereaders. Letters facilitated instruction by clarifying task and process. The probable reason that letters aid memory is that learners acquired visual sound symbolizing systems

to distinguish and represent separate phonemes. Knowledge of alphabetic principles is promoted by phonetic segmentation. Alphabetic principles are especially difficult to acquire but are central in learning to read. Stuart and Coltheart (1988) found that students must understand how speech sounds are represented by printed letters in order to apply phonics to reading.

According to Reitsma (1988) "Only by repeatedly decoding words themselves and consequently attending to the letter-by-letter structure of words quite closely can a beginning reader develop properly structured lexical entries to mediate direct access to the lexicon" (p. 223). Poor readers experience their most severe difficulties in the area of decoding.

Ehri and Wilce (1987) found that substantial practice was required to acquire decoding skill. They divided reading development into visual cue, phonetic-cue, and cipher stages of reading. Cue readers lack the ability to process multiple letters as symbols for sequences of phonemes. Cue readers do, however, store and retrieve associations between some letters and sounds. This explains how poor readers know the alphabet and some words without progressing to efficient reading. Third stage, or cipher readers, have learned the alphabet, have acquired phonemic-segmentation skill, and have internalized orthographic rules of English. They understand the systematic correspondence between spellings and pronunciations.

Sight Words

Johnson and Pearson (1984) define sight words as the core "...of words that occur in such high frequency in printed matter they are deemed essential to fluent reading, especially at the beginning stages. They are the glue words of language that cement meaningful communication" (p. 216). Sight words are those whole words that can be recognized and pronounced instantaneously without decoding.

May (1986) says that sight words should be recognized within one second to activate cueing systems that depend on vocabulary to interact quickly so reading can be fluent. Ehri (1989) says sight word reading gains accuracy as readers' knowledge of spelling grows, and as they learn to recode words phonetically. This occurs because they can probe the relation between pronunciation and letters in spelling.

Johnson and Pearson (1984) say sight word acquisition is essential. A student who stumbles over high frequency words, or depends on phonics or other strategies, will have reading comprehension problems. Sight words form a basis for teaching word identification skills. Children with a basic sight vocabulary can begin reading complete sentences from the outset of instruction.

Although he is a whole language theorist, Holdaway (1988) found sight words important. He said, "Nothing is more essential to fluency and ease in reading than a complete mastery of the basic words of the language as sight vocabulary" (p. 64). Holdaway calls

sight words bed-rock words. "...the one important thing is that the child is able to identify the unknown word without any form of aid from the teacher" (p. 145).

Harris and Sipay (1985) say repetition, although relevant, is not sufficient for learning. He suggests word cards with pictures on the reverse side. Word cards can be used to build sentences after they have been fairly well learned. Stanovich (1982) found that poor readers relied too much on context to compensate for word recognition deficits.

May (1986) noted the important psychological aspects of learning sight words. Poor readers fear of making mistakes is caused by lack of enough sight words according to May. Literacy is not only a cognitive skill. It is an interaction of social, linguistic, and psychological aspects (Strickland & Morrow, 1988). Poor performance, therefore, has psychological repercussions on self-concept and inhibits the ability to take risks. Students must take risks for learning to occur (May, 1986).

Emergent Literacy and Discrete Skills

Whole language advocate Goodman (1989) favors an integrated teaching approach and warns of the destructive effects of direct instruction of separate skills. He says direct instruction cannot be reconciled with natural learning. Goodman (1987) explains that whole language does not ignore phonics; it puts it in proper persective. Holdaway (1988) and Sabin (1986) say a skill should be taught when a student shows the lack of it. Skills teaching should

be done when the need arises and when teachers observe that children are developmentally ready (Shanklin, 1989).

Heymsfeld (1989), who supports the philosophy of whole language, says nevertheless: "We cannot depend on haphazard amorphous lessons to teach something as critical as knowledge of the alphabetic code. Nevertheless, phonics is certainly not sufficient unto itself" (p. 68). Read (1986) also calls for explicit instruction. Learning to read and write requires not only using speech and phonemes but also skill in segmentation which means locating and identifying phonemes in syllables. He says this does not happen spontaneously.

Chall (1990) expresses concern about expecting children to discover phonetic principles without instruction. A few children may discover the principles of phonics but 70 years of research establishes the need for direct instruction to develop decoding which forms a sound transition to later stages of reading. Pikulski (1983) is another educator who recommends direct instruction. Both language and phonic cues should be used in direct teaching of decoding in the very beginning stages of reading. "Certainly one of our foremost goals must be to provide the direct instruction that leads to independent reading" (p. 336).

Bussis and Chittendon (1987) also say students need direct instruction to become literate. Although the order doesn't matter, how skills are learned is important. The study of skills, however, does not make a student literate.

Groff (1983) advocates systematic, intensive, direct and early teaching of phonics. He says the patterned book method is as inferior as basals are. According to Groff (1976), the rationale for phonics-free reading is faulty. He illustrates the mnemonic efficiency of phonics by comparing alphabetic systems with ideographic systems. It takes nine years to learn Japanese ideographs in contrast to the rapid rate of learning phonics in an alphabetic system. Groff (1976) says that, although it would save teachers vast amounts of time and effort to eliminate phonics in teaching, phonics is not expendable.

Duffy and Roehler (1986) found that direct and indirect instruction are necessary in all reading programs. Direct instruction is sometimes called a strategy lesson in whole language programs. Proponents suggest allotting about 25% of reading time to instructional strategy lessons which include thoughts and discussion about reading and writing.

Richard Anderson, chief author of Becoming a Nation of Readers, says the present reading program is unbalanced with too little attention to the integrated act of reading and the integrated act of spelling. Whole language, he goes on to say, in an interview with Goddard, leaves teachers with too little structure (Goddard, 1988).

The National Council of Teachers of English published a rebuttal to Becoming a Nation of Readers. Chief author Botel (1989) stated that word attack should be integrated into a variety

of whole-to-part literary experiences in reading instruction, rather than a contrived, part-to-whole study of phonics and comprehension.

Hiebert (1988) proposes a merger of traditional components of beginning reading instruction with emergent literacy components. She lists traditional components as graphic awareness, phonemic awareness, grapheme-phoneme awareness, and word reading. Emergent literacy components are knowledge of the purpose and function of reading and the ability to recognize print in environmental contexts, concepts about print, and the communicative intent of writing. Hiebert (1988) found that each component had a significant, positive influence on subsequent components. She suggests that instructional experiences would be strengthened by taking advantage of discrete skills and young children's emergent literacy. Hiebert cautions against the tendency in education toward wide swings from one panacea to another without fully developing a program. She warns that this is especially true in reading instruction where the consequences of failure are high.

Classroom Implications

The experimental studies discussed have application in the the classroom. Laxon et al. (1988) report the classroom implications derived from the study are that letter-sound structure should be word specific, sequential, and tentative. Ehri (1987) says the implication for instruction is the "...importance of moving students beyond phonetic-cue reading strategy and teaching

them cipher reading" (p. 12). Ehri notes that her research is twice removed from classroom application. Although her instruction produced significant results, she says "More interesting methods need to be identified for classroom use" (p. 21).

Ehri (1987) suggests her research has gone beyond an either or approach in which word acquisition is either attained through visual processing or phonological processing. Previous findings have ignored the fact that letter-sound relationships are used to form associations between spelling and pronunciation and then stored in memory to be retrieved for the next reading of a specific word. The research of Ehri and Wilce (1987) indicates that a shift from visual-cue to phonetic-cue reading may be due to the amount known about letters rather than continuous development, a very important implication to the classroom. Differences of phonetic-cue to cipher reading may be quantitative, growing with knowledge of orthographics and amount of words read. There is a gradual rather than abrupt development of deciphering skill at later stages of reading proficiency.

Summary

In spite of polarization, there are many areas of agreement between discrete skills instruction and a whole language philosophy. These consensual points focus on function, on meaning, and the use of the learner's experience. There is an emphasis on integrating reading with writing and spelling, even math and science. Students' independence in using reading strategies and in

free reading is encouraged. Vast amounts of quality literature is provided.

Recent research has produced important strategies in the use of discrete skills. Bryant et al. (1989) and Lundberg et al. (1988) found a very significant relationship between phonological awareness and success in reading. Hohn and Ehri (1983) reported that using letters of the alphabet tends to facilitate instruction by clarifying task and process and by providing a terminology for communication between student and teacher. Progression to advanced levels of reading is related to the amount of knowledge students have about letters. Reitsma (1988) stated the need for repeated decoding. Read (1986) reports the need for skill in segmentation and phonemic manipulation. Ehri (1987) explained new research on relationships between spelling and memory in visual and phonological processing. Anderson (1988) reminds educators of the need for the integrated act of reading and the integrated act of spelling. Pearson and Johnson (1978), May (1986), Sabin (1986) Harris and Sipay (1985) stress the importance of a sight vocabulary. Holdaway (1980) states the importance of teaching sight words in context. Barron (1986), Mann (1986), Laxon et al. (1988), Lundberg et al. (1988) and Leslie and Thimke (1986) found developmental evidence for providing practice with common word patterns and letter clusters. Mosenthal (1989) reassured educators that skills do not need to be taught in hierarchical order. Stuart and Coltheart (1988) and Laxon et al. (1988) report information on

developmentally appropriate ages for phonological instruction.

Teachers have challenging decisions to make in beginning reading. One option is to facilitate students to "...make sense out of and through written language...[by]...inventing their own systems" (Goodman, 69). Another option is to assist students in perceiving a need for skills leading to reading proficiency. The skills are then taught directly and systematically if the teacher agrees with Read (1986) that those skills are not acquired spontaneously. Either option requires a quantity and variety of first-grade books, not only for reading along, repeated readings, and independent reading, but also books for experiencing the pleasure of sharing quality literature. Both teacher and student decisions are crucial in the "...complex mosaic of first-grade reading instruction" (Meyer et al., 1987, p. 96).

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