Why Not Phonics *and* Whole Language?

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Bernice Cullinan has a map of the United States that she is fond of displaying at conferences. On her map, any state that has joined the whole language movement is brightly colored; those that are leaning toward whole language are tinged; the rest are left white. Her point is that very few states are still white. Leaving aside questions of nature of Cullinan's measurement protocol and the grain of her analysis, her essential point seems somehow to ring true. Whole language is a very active and prominent movement. More and more, it dominates journals, conference agendas, workshop and in-service opportunities, course offerings, and even basal design and marketing strategies.

The only conceivable explanation for the burgeoning popularity of the whole language movement is that something within it strikes a deeply resonant chord in many, many teachers and reading professionals. For this reason alone, it is both timely and welcome that The Orton Dyslexia Society should devote a special symposium to it.

Yet, detractors from the whole language movement are at least as adamant. And, thus, we find ourselves in the midst of a full-scale reading "war." (Rothman 1990) Listening to either side and looking to the other, it is difficult to believe that so many could be so wrong. And, indeed, toward mediating or understanding any deadlocked argument, the rule of thumb is that both sides are right but are talking past each other; most often, their principal concerns well from wholly different issues within the domain. Could that be what has happened in this debate? I will return to this possibility in the end of this chapter.

What is Whole Language?

What exactly is whole language and what is its allure? For proponent or opponent, these would seem the obvious and essential preliminary questions: After all, how can one rationally endorse or critique, implement or reject whole language without first knowing what it is? Strangely enough, then, these also seem to be questions without any firm or, at least, broadly articulated answers.

Recognizing the perils of this enigma, Bette Bergeron (1990) attempted to extract a consensual definition from the literature. Pooling journal articles published between 1979 and 1989 in which the term *whole language* appeared, Bergeron found that, although two-thirds of the 64 articles from which she worked did indeed offer a definition, the differences between them were marked. Across the articles, whole language was variously defined as an approach, a philosophy, an orientation, a theory, a theoretical orientation, a program, a curriculum, a perspective on education, and an attitude of mind. In terms of focal attitudes, none was cited by as many as two-thirds of the definitions. And, whether cause or effect of this entropy, the majority of authors who did offer a definition provided neither reference for its origin nor explanation of its basis.

But Bergeron also found commonalities. Central to at least a third of the definitions offered were a view of reading as constructing meaning from text (59 percent), an emphasis on the importance of developing and exploring the functional dimensions of text (56 percent), of pupil-centered classrooms (44 percent), of empowerment (42 percent), of communication (38 percent), and of integrating the language arts (36 percent). In addition, 44 percent of the articles indicated that the acquisition of reading should be natural, much like the process through which children learn to speak. To compliment these definitions, Bergeron tabulated characteristics of classrooms that were discussed in the articles, breaking them down into six categories as shown in Table I: (1) instructional techniques and materials; (2) characteristics of the teacher; (3) instructional strategies; (4) characteristics of the students; (5) assessment procedures, and (6) concerns.

Table I. Whole Language in the Classroom (From Bergeron 1990. pp. 316-317)

	Number of articles (Total = 64)	% of Articles
Techniques		
literature	52	81.2
writing process	41	64.1
sharing	27	42.2
invented spelling	26	40.6
independent reading	26	40.6
functional writing	21	32.8
art	21	32.8
journals	20	31.2
reading aloud	20	31.2
functional print	19	29.7
dramatics	19	29.7
big books	18	28.1
choral reading	17	26.6
predictable books	15	23.4
charts	13	20.3
display	12	18.8
reading corner	11	17.2
dictation	11	17.2
learning center	10	15.6
segmented texts	(-22)	(-34.4)
worksheets	(-25)	(-39.1)
Teachers		
interact	27	42.2
learner	26	40.6
modeling	17	26.6
miscues	16	25.0
awareness	9	14.1
accuracy	(-17)	(-26.6)

Instruction		
themes	29	45.3
contextual skill	27	42.2
child-centered	27	42.2
daily reading	12	18.8
predict	11	17.2
whole-to-part	10	15.6
integrate Language Arts	10	15.6
brainstorm	9	14.1
skill groups	5	7.8
interest groups	5	7.8
direct instruction	4 (-8)	6.3 (-12.5)
ability groups	(-4)	(-06.3)
isolated skills	1 (-30)	1.6 (-46.9)
Students		
cooperate	42	65.6
affective	36	56.3
choice	27	42.2
plan	8	12.5
Assessment		
kidwatching	20	31.2
student work	13	20.3
conference	12	18.8
standardized tests	2 (-16)	3.1 (-25.0)
tapes	2	3.1
Concerns		
evaluation	16	25.0
accuracy	6	9.4
basics	6	9.4
phonics	5	7.8

 * Note: A minus sign (-) denotes those attributes found to be in contrast with whole language.

In summarizing her search, Bergeron concludes, "One cannot draw from the literature a concise definition for whole language because no such definition was found to exist. Whole language represents many things to many people, and has been used to define many different elements of classroom reading instruction" (p. 318). Nevertheless, she continues, certain attributes did appear in over half of the articles and may be considered core to the whole language concept. These, in her words, are:

The *construction of meaning*, wherein an emphasis is placed on comprehending what is read; *functional* language, or *language* that has purpose and relevance to the learner; the use of *literature* in a variety of forms; the *writing process* through which learners write, revise, and edit their written works; *cooperative* student work; and an emphasis on *affective* aspects of the students' learning experience, such as motivation, enthusiasm, and interest. (Bergeron 1990, p. 319)

I ask each of you, as readers, to pause and reflect on Bergeron's definition. Is this what the field has been feuding about? Does this definition seem to you to capture the crux of the debate? While these attributes are surely central to the whole language, they would hardly seem sufficiently beyond the pale, either pedagogically or socially, to foment so strong and impassioned a movement or so fervent a reaction.

In this paper, I argue that the whole language movement carries or is carried by certain other issues that do merit serious concern. Categorically labeled, these issues are: (1) teacher empowerment: (2) child-centered instruction: (3) integration of reading and writing; (4) a disavowal of the value of teaching or learning phonics; and (5) subscription to the view that children are naturally predisposed toward written language acquisition.

Of these, it is the last two to which this conference is addressed and on which I will focus in this paper. In Bergeron's table (Table 1), the centrality of these issues to the whole language movement is evidenced by the strong negative responses to use of texts in which vocabulary and language structure are controlled ("segmented texts"), to direct instruction, to attending to accuracy and isolated skills, and in part, no doubt, to worksheets and assessment. Similarly, in her thesis research, DeFord (1975) found that beliefs about the value - or lack thereof - of teaching spelling-sound correspondences was single best discriminator between those groups that she labeled phonics versus whole language teachers. Moreover, these positions on phonics and direct instruction are everywhere expressed in the larger literature on whole language (e.g., Goodman 1986; Smith 1971, 1973, 1988; Strickland and Cullinan 1990; Weaver 1990).

Indeed, as Chall so forcefully develops in her essay, it is the movement's stance on phonics and code instruction that has been "the most essential distinction between whole language and other approaches." To be sure, it is these two planks of the whole language platform that have provoked the most adamant protest to the movement. And there is very good reason for such protest.

Across the centuries, as Richardson points out, whether conceived as "visual, auditory, kinetic, or tactile," methods to help children attend to the sequences of letters and their correspondences to speech patterns have, one way or another, been built into the majority of instructional approaches that we have invented for beginning reading and writing. Indeed, even among the Greeks, even with the very advent of the alphabetic system of writing, such methods were core (Mathews 1966). Across the research literature, the value of phonics instruction has been demonstrated across literally hundreds of studies - including small, well - controlled laboratory studies us well as large-scale method comparisons involving hundreds of classrooms and thousands of children. When

developed as part of a larger program of reading and writing, phonic instruction has been shown to lead to higher achievement at least in word recognition, spelling, and vocabulary, at least in the primary grades, and especially for economically disadvantaged and slower students. And beyond such tests of time and comparison, we now have explanatory arguments, both logically and empirically compelling: Young readers must develop a basic appreciation of the alphabet principle; they must develop a deep and ready knowledge of spellings and spelling-sound correspondences: the capacity to read with fluency and reflective comprehension depends on it (Adams 1990).

Joanna Williams has masterfully presented and documented arguments in support of providing well-conceived guidance on spellings, phonology, and their interconnections. In the interest of complementing her effort, I will here consider both the origins and validity of some of the prevalent arguments against providing such guidance. Afterwards, I will return to the larger issues of the whole language debate. In particular, I will argue that the express positions of the whole language movement on teaching and learning about spellings and sounds are historical artifacts. Although they are central to its rhetoric and focal to its detractors, they may well be peripheral to the social and pedagogical concerns that drive the movement.

Historical Roots

Understanding Reading (First Edition)

Before addressing the arguments themselves, it seems appropriate to consider their origin. Given so much evidence and history to the contrary, what is their basis? Where did they come from and how did they become so deeply enmeshed in the whole language philosophy? The answer, I believe, is historical. More specifically, each of these attitudes is anchored in Frank Smith's seminal work, *Understanding Reading*. First published in 1971, this book set the framework, both philosophically and scientifically, for the whole language movement in the United States.

I do not denigrate Smith's original book. I well remember reading it when it first came out. It appeared just as serious attention to cognition was gaining a foothold among psychologists, just as we were accepting the scientific possibility and appropriateness of turning our attention from external stimuli and responses to the internal complexities of thought. With force and eloquence, Smith's book heralded the potential relevance and intrigue of the kinds of problems we could explore with our new science. More than that, it underscored the awesome brilliance and flexibility of the intelligent mind as compared to our feebly simplistic and mechanistic models. The book resoundingly captured and fueled the spirit of cognitive movement.

On top of all that, Smith presented as complete and compelling an exposition of the reading process as one could imagine - given our prevailing and deeply entrenched theoretical framework. And therein lies the key. In particular, from within that prevailing, that deeply entrenched framework, and whether we were working with learning, memory, or perception, psychologists were deeply accustomed to the assumption that the mind chugs through the pieces one at a time, in series.

Smith's essential thesis was that skillful reading could not be explained within that one-at-a-time, serial framework if its units of analysis were either single letters or single words. If skillful readers' units of analysis were either single letters or words, he argued, their progress would be far too slow; their memories would too quickly be overloaded; they would be lead astray by the unreliability of English spelling-sound correspondences or garden-pathed by the multiple uses, meanings, and pronunciations of the words. To read with fluency and comprehension, he concluded, skillful readers must instead work from visual features directly to meaning. And if reading *for* meaning depends on reading *of* meaning then to decompose a text - to focus a reader's attention on individual letters or words - is to distort and even disguise the very nature of the task.

Yet there was another piece of the puzzle. Just a few years before, Noam Chomsky (1965) had shaken the psychological world by proving that human language acquisition defied explanation through our standard linear model. Human language was too rich and too varied. Clearly, any speaker could, in principal, produce an infinite number of sentences of infinite length. Whatever the units of learning might be - phonemes, words, or even whole phrases - it was impossible that this capacity could be acquired by learning to imitate and connect them one-by-one to each other. Furthermore, despite all the complexity of the challenge, despite the noisiness-the blunders, false starts, interruptions; etc.-of the signal, despite the apparent absence of any universally endorsee instructional science on first-language acquisition, nearly all humans, world around, essentially master their native language within the first few years of life. (As Smith comments, "There are relatively few books on such topics as - Why Johnny can't talk" [1971, p. 49].

The answer, it was proposed, could only be that babies were innately prepared to learn language. With a pre-wired Language Acquisition Device, or LAD as it was known, human infants were seen to be endowed from birth with a deep knowledge of the essential physical, grammatical, and semantic components of all human languages. To become linguistically competent in their native language, children need only discover which of the various options were operative in their own community of speakers. They did so, it was proposed, through a process of systematically testing, refining, and reformulating their built-in linguistic hypotheses. (Chomsky 1965, McNeil 1970).

Faced with the seeming inexplicability of written language acquisition, Smith suggested that if, too, might be governed by the Language Acquisition Device:

> The picture that has been presented shows a child from the very beginning of his life looking for rules that will provide him with the key to the language community in which he finds himself. The child has rules for learning rules, and he tests to see which particular rules apply. We shall see in due course that precisely the same kind of argument may be applied to reading - that basically a child is equipped with every skill that he needs in order to read and to learn to read; all that he needs to discover is the particular rules that apply. When we view the role of the child in this new light, we also see a different role for the adult in the language-learning process. We can perhaps gain some insights into the task of the reading teacher if we understand the function of adults when a child is learning how to speak (Smith 1971, p. 55).

Putting it all together, Smith concluded that given adequate and motivated experience with meaningful text, learning to read should be as natural as learning to talk. Phonics, he conceded, does need to be learned for it gives the child "the visual-acoustic categories that will enable him to mediate the identification of words that he cannot identify on sight" (1971, p. 226). However, he urged against any overemphasis on phonics for three reasons. First, "to a large extent the child has to learn these phonic rules for himself, and he will only acquire them through experience in reading" (1971, p. 226). Second, a child who stops to decode every word of text will read too slowly to capture its meaning and, within Smith's theory, it is the meaning and flow of text that ultimately support learning about its most useful features. Third, given too much teaching, a child might treat the task of learning to read as one of memorizing isolated instances instead of inducing general rules. Turning to the instructional implications of this view, Smith concluded that beyond providing materials and opportunities for reading, the teacher's most important job was one of providing feedback. But it must be very sensitive feedback. For, most of all, he argued, the teacher must create the sort of positive and supportive environment that would best encourage students to take on the risky business of testing new hypotheses. Thus, the basic tenets of the whole language movement were in place.

Even in retrospect. Smith's analysis of the problem was tremendously insightful. His proposed solution, moreover, was bold, broad, and creative. But it was also of the day. He was correct in arguing that skillful reading could not proceed through any one-at-a-time identification of letters or words. Yet, instead of casting aside the linear, one-at-a-time model of behavior and thought that prevailed, he reached for informational chunks (Miller 1956) big enough to be handled with adequate speed and efficiency within it. Smith was trapped within the very framework that his work was so instrumental in breaking. Similarly, although belief in the Language Acquisition Device was *de rigueur* back then, the details of its actual knowledge and workings were highly speculative. And extending that set of ideas to the process of mastering print involved an enormous and gratuitous leap.

But neither is such grand and innovative theorizing to be disparaged. To be sure it is risky: By its very nature, it must often prove wrong. On the other hand, whether right or wrong, it is also the very stuff that thrusts science forward. All in all, *Understanding Reading* was a very good book. It was current; it was scholarly; it was broad; it was incisive. Furthermore, Smith carefully laid out the evidence and arguments on which he had based each of his conclusions so that they could be inspected, critiqued, and debated. And with the wisdom appropriate to a scientist of his obvious potential, he concluded the book with a cautionary note:

> Nothing that I have said should start a classroom revolution. There is no suggestion that teachers of reading should throw away their instructional procedures, or their years of experience, and start all over again. As I said in the Preface, no theoretical analysis of the reading process can dictate an instructional method: pedagogy always has to be tested in the classroom. (Smith 1971, p. 230).

Psycholinguistics and Reading

Somehow, before two years were out. Smith threw both wisdom and good taste to the winds. He produced another book, *Psycholinguistics and Reading* (1973). This book was a collection of papers, some by others, some of his own. Those by others had been methodically selected to reinforce his own theoretical notions. More than that, he prefaced each so as to emphasize points that were consistent with his own and sometimes even to "correct" details that were not. Meanwhile, in the chapters of his own, he reiterated and extended his earlier conclusions. But this time he did so without maintaining the caution or courtesy of scrutable argument. Instead, conclusions about the nature of the reading process were presented as self-evident if enlightened truths and, so too, were their implications for learning and instruction.

In a chapter entitled "Decoding: The Great Fallacy" Smith, as he explained in its introduction, "sets out the major arguments against the decoding hypothesis and considers alternative methods by which word identification can be achieved, *and generally is*" (1973, p. 70, italics are mine). As in *Understanding Reading*, these "alternative methods" are held to consist: in translating print to meaning directly. Also as in *Understanding Reading*, Smith supports these methods by pointing out that, in contrast, any one-by-one identification of individual letters or words would be too slow, too unreliable, and too burdensome on memory to support reading with fluency or comprehension. This time, however, the force of his argument is built on the radical (and, as it turns out, unjustifiable [see, e.g., McClelland and Elman, 1986]) suggestion that perception of individual words and speech sounds is immaterial to *oral* language comprehension: Where then, he challenges, is the leverage or even the sense in supposing that reading comprehension might be mediated by letter or word identification? Bolstering his case through anecdotes about oral reading errors and mistaken conjectures about the nature of speed reading, he continues, "Fluent readers rarely read word for word.... But if you are not reading word for word, you are obviously not reading by decoding to sound" (1973, p. 79). Before he is done and in notable contrast to his stated position in *Understanding Reading* - Smith rejects the utility of decoding all together. He pronounces it "a procedure as impossible in practice as it is untenable in theory" (1973, p. 70). Among beginning readers, he asserts, "decoding skills" are used only to a very limited extent, and then primarily because a good deal of instructional effort is expended on impressing such methods upon children" (1973, p. 71). Among skillful readers, he asserts, decoding is used not even for purposes of identifying visually unfamiliar words, and subvocalizing is "nothing more than a regression to classroom-induced behavior" (1973, p. 81).

Smith's other contributions to this book are similarly methodical. "The Efficiency of phonics" is an excerpt from *Understanding Reading* on the complexity and unreliability of spelling-sound rules - but the original surround that discussed the nature and history of the system and its value to young readers is omitted. In "The Learner and his Language," Smith recapitulates the theme that children are naturally predisposed to learn language, whether written or spoken. Describing conventional instructional approaches as "little more than a systematic deprivation of information," he offers that children will learn to

read quite by themselves if only they are given an adequate corpus of meaningful language and the kind of positive, non-punitive support that will allow their natural hypothesis-testing talents to operate most productively. In "Alphabetic Writing–A Language Compromise," he argues that the only (albeit marginally and temporarily) worthwhile means of or ends for learning about letters, sounds, and spellings relate to the challenges of learning to write, not read. And in a chapter written in collaboration with Ken Goodman, "On the Psycholinguistic Method of Teaching Reading," he firmly renounces the value, both actual and potential, of planful instructional programs. What a child needs in order to learn to read, submit Smith and Goodman, cannot "be formalized in a prescribed sequence of behaviorally stated objectives embalmed in a set of instructional materials, programmed or otherwise.... He needs written language that is both interesting and comprehensible, and teachers who understand language-learning and who appreciate his competence as a language-learner" (1973, p. 180). Rather than awaiting any new and better "souped up package of classroom impedimenta," therefore, enlightened teachers "will find themselves rejecting large portions of the materials and the accompanying guide books as inappropriate, unsound, and even destructive" (1973, p. 181).

Even still, it is the last chapter of this book that may best encapsulate the spirit and messages that are now so familiar a part of the whole language ethos. In "Twelve Ways to Make Reading Difficult," Smith presents twelve instructional "precepts;" most of these, he claims, may be found "enshrined" on the pages of teachers' manuals and may be considered "venerable to the point of senility." Recasting his own theoretical conclusions as givens, he proceeds to explain why each of these twelve traditional precepts stands as a powerful method of interfering with the process of learning to read. Therewith, he rails against both teaching and encouraging use of spelling-to-sound correspondences; against directing children's attention to individual letters, words, or spellings whether in isolation, in connected text, or in association with writing instruction; against discouraging or correcting errors and guesses: against reliance on prepackaged methods and materials; against the fundamental validity and utility of formal assessment devices; and against the misguidance that "pervades almost all of teacher training." And, to wrap things up, he explains:

> The last thing I want to do is imply that teachers have been doing everything wrong. Quite the reverse, my interest is in the fact that for so long, with so many children, teachers have been doing things that are obviously right.... Most teachers are eclectic—they do not act as brainless purveyors of predigested instruction (that is why there is the frightening trend these days to produce teacher-proof materials). In short, teachers - at least the best of them - are good intuitively. They are effective without knowing why.

> The word "intuitive" may sound vague and unscientific - it is a word that is widely discredited - but mainly I think because the quality of intuition is not well understood ....Put in psycholinguistic terms, intuition implies access to underlying structure without awareness of the grammar relating this structure to the physical events that impinge directly upon our senses. More colloquially, intuition is a feel for what is really going on. In terms of reading instruction, intuition is a sensitivity

for the unspoken intellectual demands of a child, encouraging and responding to his hypothesis testing. The good intuitive teacher, in other words, is one who instinctively ignores the twelve easy rules. (Smith 1973, p. 196).

In short, *Psycholinguistics and Reading* is a very strange book. Smith refers to his own theoretical notions as "insights," but he treats them as truths. He calls them radical, but insists they are in no way new. He asserts they are science, but defends and extends them through the most unscientific of rhetorical devices and argument. He belittles research on the strength of research, science on the strength of science, and expertise on the strength of his own expertise. He insists that the only road to better instruction is through a deeper understanding of the process of reading, even as he exhorts educators to ignore all but (his views and) their intuitions. He renounces the very concept of educational precepts even as he promulgates his own. He extols the wisdom and effectiveness of teachers, even as he chides them for all they have traditionally done and believed in. He ridicules them for so gullibly embracing new techniques and instructional approaches, even as he urges his own upon them. He solicits their trust, even as he warns them that (other) experts are not to be trusted. He admonishes them to reject publishers, reading researchers, and even their own professors as outsiders. Meanwhile, as journalist and academic psychologist, he insinuates himself as insider and suggests that anyone who disagrees is out to mislead, demean, and dehumanize both them and their students.

In the Years since Then. . .

The impact of *Psycholinguistics and Reading* was significant. However paradoxical their presentation, Smith's beliefs, attitudes, and values have found enduring re-expression in the whole language literature. The genre he developed, once so refreshingly (if scandalously) impassioned, has become commonplace, and so too have his notions about the nature of reading and learning to read. Indeed, since 1973, Smith's insights have come to be treated by many as scientific fact.

Across the same period of time, the larger empirical and theoretical understanding of human learning, perception and language comprehension has progressed dramatically. The old, linear, one-by-one model of mental processing has generally been demoted to the status of special case or analytic tool. In its place, researchers have in parallel both within and across levels of analysis: it is (designed to look for overlap and connectivity and to learn about pattern and relations (e.g., McClelland and Rumelhart 1986; Rumelhart and McClelland 1986). Though the notion that humans are innately predisposed toward learning to speak has become generally accepted, researchers have also demonstrated that most parents, perhaps unintentionally but both methodically and effectively, do tutor babies in the syntax and semantics of their native language (e.g., Snow 1986). And in contrast to learning to speak, researchers have established that certain aspects of learning to read are quite unnatural (Liberman and Liberman 1990). Moreover, bit-by-bit, through the piecewise and self-critical process of science, researchers have learned a great deal about the particulars of reading and learning to read. With such knowledge in hand, let us re-examine Smith's insights about reading.

Smith's Arguments Revisited

Skillful readers do not attend to individual words of text

> Reading is a process in which the reader picks and chooses from the available information only enough to select and predict a language structure which is decodable [to meaning].... It is not a process of sequential word recognition. (Smith 1973, p. 164).

Since 1973, and largely through advances in computer-mediated eye movement technology, researchers have collected considerable data bearing directly on this hypothesis. As it happens, people's eyes do not move smoothly through text while reading. Instead they leapfrog through the print, alternately fixation on a word and then jumping to another. While the eyes are moving, visual processing is suppressed: it is while the eyes are still that visual information can be acquired from the page. By studying the locations and durations of readers' fixations, psychologists have been able to learn a great deal about the dynamics of connected reading.

Contrary to Smith's hypothesis, normal adult readers do not skip over any significant number of words in meaningful text regardless of its ease or difficulty. True, the scanning process is somewhat sensitive to the redundancy or predictability of a text in that those words that readers do skip tend to be short function words (such as of, in, to, and, and the). Nevertheless, when readers skip, they almost never skip more than one single word. Many function words and/or the vast majority of content words receive the reader's direct gaze. (Just and Carpenter 1987).

> Fluent readers can examine several lines with a single fixation, a feat far more common in our everyday reading than usually believed. (Smith 1973, p. 22).

Physiologically, this seems possible. The visual field is less long and thin, like the shape of a word, than it is circular. Wherever a reader might fixate, therefore, the area of visual acuity may often extend to adjacent lines of print. Indeed, when alternating lines of text are filled with irrelevant and to-be ignored material, readers do seem to take some of it in. Even where subjects assert that they consistently ignored the irrelevant lines of print, and even where they insist total ignorance of its message or wording, their responses to carefully designed questions reveal that some semantic processing has taken place (Willows and MacKinnon 1973; Inhoff and Briihl 1991).

So far, this looks like evidence for Smith's conjecture - but not so fast. By monitoring eye movements in this situation, Inhoff and Briihl (1991) were able to establish that, intentions aside, their readers occasionally did fixate the irrelevant lines of text while reading the relevant. These fixations appeared to be visual accidents: They were exceptionally brief, immediately corrected, and did not otherwise disrupt the rhythm of reading the relevant text. Nevertheless, when questions related to such erroneous fixations were excluded, there was no longer any indication that readers obtained useful semantic information from the adjacent and irrelevant lines of text.

In short, visual attention and visual fixations are tightly connected and, for normal readers, the normal fixation pattern proceeds left to right, nearly word by word, and line by line. But are normal adult readers necessarily good readers? Smith effectively suggested that most are not: "A good deal of the remedial activity that is called speed reading instruction is designed to break inefficient readers of the habit of depending on words" (1973, p. 8). He explains:

> Readers in the "speed reading" class of 1000 words a minute or more often read down the left-hand page and up the right. A reader plodding through the text on a word-by-word basis obviously is constrained to a limping left-right progression, but such a course is a handicap rather than a help to fluent reading. (Smith 1973, p. 22).

In fact, speed readers are taught to slide their hands across the print while reading, and the motions that they may adopt include the pattern suggested by Smith as well as a number of other more or less exotic alternatives. The express purpose of these hand movements is to guide the locations of their visual fixations. Yet, after studying the eye movements of speed readers. Just and Carpenter (1987) concluded that the hand movements serve more to set the pace than the spatial pattern of the scanning process. Indeed, the visual scanning patterns observed among their Evelyn Woods graduates was invariably left-to-right and top-to-bottom.

> Only a small amount of information is required from any word, provided the reader is reading for meaning rather than to identify words; that is the secret of speed reading. Speed reading does not, as often thought, involve reading just one word in four or one in ten; such a reduction would make nonsense of any text despite the redundancy of English. Instead the speed reader reads by utilizing just a fourth or a tenth of the information available from every word. (Smith 1973, p. 79).

However compelling this description may sound, it is not consistent with available data. Like normal readers, skimmers and speed readers are found to target their fixations on individual words. Their increased reading rate is owed instead to their tendency to fixate more briefly and on only about half as many words – one word in two or three, as it were. To the extent that speed readers have any special strategy for aiming their fixations, the useful cue seems to be nothing less superficially the words' lengths in letters. And importantly, the information that they extract from the text is wholly dependent on which particular words they have fixated. Provided the text is familiar in topic, speed reading graduates do tend to demonstrate a better grasp of the high level ideas or gist of a passage than do untrained Skimmers – that after all, is a major focus of the speed reading instructional regimen. Nevertheless, even on this dimension, speed readers tend not lo do as well as normal readers. (Just and Carpenter 1987).

> A reader who concentrates on words, is unlikely to get any sense from the passage that he reads. (Smith 1973, p. 7).

Here Smith is essentially correct. When readers must wrestle with the identities of individual words of a passage, they necessarily lose track of meaning. Conscious or thoughtful attention is limited. It can be directed to only one activity at a time. When reading, it should be directed to the processes of comprehension—to constructing, monitoring, and assessing the meaning and message of the text.

Yet, arguing that readers must not focus their attention on individual words is very different from arguing that they should not process them. Although good typists do not focus their attention on each individual letter as they type, they certainly do type them. And, in further analogy to the typist, skillful readers are able to concentrate on meaning only because they have learned to process the words and their spellings very quickly and nearly effortlessly. But such automaticity grows from a history of having read words – not from skipping, ignoring, or guessing at them.

Skillful Readers Don't Process Individual Letters

> An unfortunate consequence of the alphabetic principle for the fluent reader is the widespread conviction that because words are constructed of letters, letters must be identified in order for words to be read – a misconception that could have created havoc in written language communication if our instinctive behavior in reading was not to ignore individual letters. (Smith 1973, p 124).

To be sure, skillful readers neither look nor feel as if they process the individual letters of text as they read. Nevertheless, research has demonstrated repeatedly and through a host of different paradigms that they quite thoroughly do. They do so whether they are identifying short familiar words or reading connected text for meaning. They do so regardless of semantic, syntactic, or orthographic predictability of what they are reading. Furthermore, their eye movements indicate that, even in the absence of conscious awareness, the visual system notices the slightest misspelling, even when it involves a visually similar letter and is buried deep in the middle of a long word that is highly predictable from the context that precedes it (McConkie and Zola 1981).

It is not that readers process letters one at a time. Instead, given normal text, their eyes can resolve up to three or so letters to the left of their fixation point and about twice that number to the right. Showing admirable adaptivity, then, readers tend to center their gaze toward the middle of words, taking a second fix to the right: when the word is so long as to require it (Rayner and Pollatsek 1987). To the extent that any sequence in view is familiar, its component letters pull each other into familiar words and spelling patterns by virtue of the learned associations among them. Because this happens automatically and in the very course of perception, the letters are processed neither independently nor serially. Instead, their recognition is highly interdependent and happens more or less in parallel (see Adams 1990).

Interestingly, when Smith rejected the feasibility of serial letter recognition during reading, he recognized the potential of a parallel processing alternative. But almost as quickly, he discarded it: "If sequential and other information can be extracted 'in parallel'

from letter sequences at the feature level, it is superfluous to propose that letter identification take place at all" (Smith 1973, p. 59). This is a bit like arguing that there is no such thing as a grain of sand nor any point in entertaining the potential reality or functional attributes of a sieve because shoveling and sifting sand equally result in one big pile with each putative "grain" held in place only by all the others. But, in fact, individual grains of sand are quite real, and they do fall separately and in parallel through the sieve. Smith, moreover, has blurred three distinct issues in this argument: (1) What are the functional units of word recognition? (2) What is the dynamic of their processing? And (3) What are the characteristics of the end product? In reading, the component letters of words are the basic perceptual units: within syllables and familiar words, the letters are perceived interdependently and in parallel: and the perceptual result is not an ordered string of independent units, but a cohesive unit in itself, held together by virtue of the associations among its letters as well as its connections to speech and meaning.

In short, then, skillful readers automatically and quite thoroughly process the component letters of text. They do so because their visual knowledge of words is built from memories of the sequences of letters of which the words are comprised. Conversely, because they do so, their orthographic knowledge is reinforced and enriched with each word they read. Ultimately, readers come to look and feel like they recognize words holistically because they have acquired a deep and ready knowledge of the orthographic patterns of their language. But to the extent readers that make a habit of skipping, glossing, or guessing at unfamiliar words, there can be no opportunity for such knowledge to develop.

Spelling-Sound Translations are Irrelevant for Readers

> To the fluent reader the alphabetic principle is completely irrelevant. He identifies every word (if he identifies words at all) as an ideogram. He is probably not concerned with the sound of words in the first place, and if he does read aloud or subvocalize it is because he has already identified the words. (Smith 1973, p. 124).

The fact of the matter is that, at least at the level of mental activity, skillful readers automatically and rather irrepressibly do translate print to speech while they read. Furthermore, research suggests that this tendency helpfully subserves both word recognition and comprehension.

> It is sometimes argued that decoding to sound must take place at least when the reader meets a word that he cannot identify on sight. Decoding to sound is the last resort of any reader. Instead the fluent reader ignores the occasional word that is not in his sight vocabulary. He takes advantage of the fact that one word in five can be completely eliminated from most English text (Shannon 1951) with scarcely any effect on its overall comprehensibility. (Smith 1973, p. 79).

Let us back off a moment before turning directly to this contention. As discussed earlier, readers can focus their active attention on the processes of comprehension only to the

extent that word recognition is effortless. Where readers do pause to wrestle with the identities of individual words or letters of a passage, they necessarily lose track of meaning. To recover the interpretive thread of the passage, the only recourse is to reread the whole phrase or sentence with fluency after its difficulties have been worked out.

Thus, the effortlessness of the word recognition process is critical but so, too, is its speed. Skillful readers' speed or fluency enables them to think about whole phrases or sentences worth of words at once (Kleiman 1975), and this is essential. The words of a printed passage are presented and perceived one by one. Yet comprehension operates not on individual words but on the relations among them. The word "played" means something different in "They played the horses" and 'They played the piano" as, to a greater or lesser extent, does every word in every different context in which it appears. The language comprehension system is designed to discern these differences by working with whole, cohesive grammatical units - whole phrases or sentences worth of words - at once. To comprehend, therefore, readers must read quickly enough to register the last word of each phrase or sentence before the image of the first has faded away.

Research affirms that the spellings of many words become so well-learned and familiar that they are effectively recognized as wholes (see Adams 1990). Because very familiar words are mapped almost instantaneously from sight to meaning, phonological mediation is not only unnecessary but very often too slow to keep up in any case. Given that the capacity to read with comprehension and thoughtful reflection depends so critically on the speed and effortlessness of word recognition, it is a fortunate fact of human language that the words we use most often tend also to be short in spelling and sound. As cause or effect, these words tend also to be relatively general in meaning (e.g., *bush* instead of *enonymus* or *forsythia*) enabling their use and reuse in place of less familiar alternatives (Zipf 1935, 1949). Indeed, analyses of everyday print reveal that the vast majority consists of relatively few, very frequent words (Carroll, Davies, and Richman 1971; Kucera and Francis 1967).

More specifically, to estimate the frequencies with which different words are likely to be encountered by children, Carroll, Davies, and Richman (1971) sampled 5,088,721 words from their school and home reading materials. Of these, fully 50 percent were represented by just 109 different words. Moreover, roughly 75 percent of the sample was made up of only 1,000 different words and 90 percent of only about 5,000 different words.

It is not unreasonable to suppose that, not too far into their school careers and regardless of how they were taught, most children will recognize most of these 5,000 words with no need of phonological mediation. True, the remaining words in the sample must be far less familiar, but each must also be far less frequent: collectively they represent only 10 percent of the words - one in ten - that readers will encounter. Given Smith's claim that "one word in five can be completely eliminated from English text (Shannon 1951) with scarcely any effect on its overall comprehensibility" (Smith 1973, p. 79), are these words worth worrying about? It is tempting to conclude that the ability to decode less familiar words amounts to little more than a bit of rarely consequential pedantry – but again, that is too hasty.

It is statistically demonstrable that the structure of English is sufficiently' predictable that an equivalent of one word in five is informationally redundant (Shannon 1951). But that is quite different from arguing that one word - pick a word, any word - in five can be eliminated without affecting a text's comprehensibility, for linguistic information is *not* evenly distributed across words. Just compare the informativeness of the frequent and frequent words of a text, e.g., *when, you, an, to, the, and, he, some, that, by*, ... versus *infection, doctor, penicillin, medicine, discovered, Alexander Fleming*, *melon, mold, poison, bacteria, antibiotics, protect, germs, disease*. Given a passage constructed of these words, how good would your comprehension be if you read only the frequent while ignoring the infrequent? Frequent words are important because the coherence and connectivity of a text depends strongly on them. But the information in a text depends disproportionately on its less frequent words. (Finn 1978).

The total number of different words that Carroll, Davies, and Richman (1971) picked up in their sample was 86,741. Thus, those 5,000 frequent words represent only about five per cent of the different words encountered. Of the remaining 80,000 or so words in the sample, each appears no more than a few times per million words of running text. How infrequent is that? If the average fifth grade student reads approximately one million words of text a year (Nagy, Herman, and Anderson 1985), she or he is lucky to have encountered any one of these words even once in a whole year's worth of reading. It is, in short, highly unlikely that many of these words will be sufficiently familiar to the child that they can be recognized at a glance as wholes.

We may surmise that each of the words that appear in children's texts are expected to be read and understood by the schoolchild. We also know that the information conveyed by words varies inversely with their frequency. Taken together with Smith's recommendations, we are faced with a dilemma: While the child is to depend on the meaning of the passage to infer the meaning of its less familiar words, the meaning of the passage depends disproportionately on the meanings of its less frequent words.

In short, the practice of guessing the meanings of visually unfamiliar words from context is not only demonstrably unreliable (e.g., Schatz and Baldwin 1986) but - Smith's assertions to the contrary - it is also statistically unfeasible. On balance and with an eye toward either the long run or the short, it is hardly helpful to teach children to use context to guess or ignore the unfamiliar words in a passage.

The point, moreover, is not simply that there are frequent and infrequent words to be read. It is that there is an enormous range in the frequencies of the words that students must encounter every day. While there must be an analogous range in students' familiarity with the words they see, undue time-out for word identification is ill-afforded. And so, it is here that skillful readers' habit of sounding words out becomes invaluable. Even for wholly unfamiliar words, the spelling-to-sound correspondences are typically so overlearned that they are run off with near effortlessness. Just try it: *hypermetropical*, *hackmatack*, *thigmotaxis*. Indeed, the sounding-out process tends to be so effortless that if these words were in your speaking vocabulary, you might not even have noticed that they were visually unfamiliar. In this way, by meeting, reduplicating, and supplementing the

word recognition efforts of the visual system, the speech system generally ensures that those many words of known meaning but marginal or incomplete visual familiarity are recognized with the speed and effortlessness on which comprehension depends.

Yet print-to-speech translation meets another need quite independent of word identification. As Smith points out, "many fluent readers tend to subvocalize when confronted with unfamiliar material" (1973, p. 81). Recall that comprehension operates on whole sentences or clauses. By implication, in order to interpret a clause or sentence, readers must be able to remember it from beginning to end. By thinking or speaking the words to themselves, readers effectively extend the longevity and holding capacity of heir verbatim memory (Baddeley 1986). Preventing skillful readers from subvocalizing does not impair their ability to interpret single, familiar words or simple sentences. On the other hand, it severely disrupts their ability to remember or comprehend long or complex sentences (Waters, Caplan, and Hildebrand 1987). But again, this is a strategy that works effectively only to the extent that it works automatically.

Don't Teach Children about Spellings and Sounds

This stricture seems to come from a conflation of three of Smith's major "insights." First is his claim that spelling-to-sound translations are irrelevant to the reading process; if so, then why bother? Second is his hypothesis that, given adequate and positive exposure to meaningful, engaging text, the child will discover the distinctive features of written language easily and naturally, by virtue of the same, built-in Language Acquisition Device that guides her or his mastery of speech; if so, then teaching is, at best, unnecessary and, at worst, diversionary and inhibiting. Third is Smith's hypothesis that, for skillful readers, print perception involves synthesizing features that are sampled not from individual letters or words, but across whole, meaningful chunks of text; if so, then the distinctive features for reading are far too diffuse and complex to be consciously known, much less taught:

> In one sense, of course, the teacher, does "know" what these critical rules of featural and orthographic redundancy are; otherwise, he could not be a fluent reader himself. But this special information about redundancy is not accessible to our awareness, we acquire and use it quite unconsciously, with the unfortunate result that not only can we not pass it on verbally, but we often fail to realize how important it is. And therefore a child may not get opportunity to acquire a knowledge of redundancy by the only route that is open to him – by experience in reading. (Smith 1971, p. 225).

If all three of Smith's premises were correct, then his conclusions that spellings and sounds should not and cannot be taught would warrant serious consideration. But, they are not. Instead, research shows none them to be correct: Skillful reading depends on rapid and effortless recognition of letters and of words; skillful readers habitually generate and frequently rely on spelling-sound relations, and the insights and observations on which such mastery of spellings and sounds depends are not natural - to the contrary, for many children, they are demonstrably not forthcoming without some special guidance (See Williams, this volume).

As its most obvious benefit, knowledge of spelling-sound relations enables independent word learning: Printed words that are in the child's oral vocabulary can be discovered by sounding them out. Still more important to the learner, however, is the mnemonic support of spelling-sound relations. Through knowledge of spelling-sound relations, the sound sequence of a spoken word will lock into the visual sequence of its printed letters such that it both constrains and reinforces orthographic learning (Ehri 1980).

Because visual knowledge of words consists, at core, of knowledge of the ordered identities of their component letters, its growth depends on solid visual familiarity with the letters of the alphabet. Where a child's attention is concentrated on the resolution of any single letter, it cannot be usefully distributed across the sequence comprising any word as a whole. Further, to the extent that any letter cannot be solidly recognized, it obstructs learning of the sequence as a whole. But familiarity with the letters of the alphabet is not innately given. It must be learned. If it has not been learned by the time children enter first grade, then finding ways to engage their interest and attention with letters is of first order importance.

To learn about spelling-sound relations, children must additionally understand the fundamental nature of the alphabetic principle. To this end, they must acquire reflective awareness of the sound structure of words. But again, such conscious awareness of phonemes is not natural. To the contrary, it seems to qualify as a genuine insight – for many, it is also a relatively difficult insight.

Happily, research has shown not only that children's phonemic awareness can be hastened through appropriate training but also that such training produces significant acceleration in the acquisition of reading and writing skills (Blachman 1987; Lundberg, Frost, and Petersen 1988; Wallach and Wallach, 1979; Williams 19SO). Provided that children have acquired a basic understanding of the alphabetic principle, the challenges inherent to both independent writing and well-designed phonic activities may significantly foster its growth.

Finally, to establish visual knowledge of frequent words and spelling patterns, children must be persuaded to examine the letterwise spellings of words that they cannot recognize on sight. But again, many children are not predisposed to do so (Byrne and Fielding-Barnsley 1989; Masonheimer, Drum, and Ehri 1984). Toward supporting this habit, the strategy of sounding out unknown words is of special value: Even as it requires careful attention to the spelling of the word, it provides its own reward and reinforcement in its success. And, ultimately, helping children learn to spell correctly and encouraging them to read broadly contributes still further to their word; recognition reading proficiency (Bryant and Bradley 1980; Frith 1980).

None of this, of course, is to suggest that facility with spellings and spelling-sound relations is all there is to reading. Relative to the overall literacy challenge, learning about spellings and sounds is a relatively small component. But it is also wholly necessary and can be significantly assisted through sensitive and well-designed instructional activities.

In the final analysis, research has inarguably affirmed and reaffirmed that the capacity for reading fluently and with reflective comprehension depends on deep and ready knowledge of spelling-sound correspondences. But it has also yielded invaluable information on why our conventional approaches to developing such knowledge may not be as efficient and effective as they could be. In particular, drill without understanding is at best tedious and at worst unproductive. As with every other aspect of reading, growth in spelling and spelling-sound knowledge depends on active understanding of what it's for and how it works. Rather than dwell on any of these issues, I refer the reader to Williams's excellent paper in this volume. Even so, in the interest of dispelling one last "but," I address just one more phenomenon: word-calling.

A frequently expressed concern with respect to encouraging children's use of phonics while reading is that they will become so absorbed in the accurate reading of individual words that they will lose track of meaning. In keeping with this, research confirms that, midway through the first grade or so, children tend to shift away from semantically and syntactically compatible miscues toward errors that maintain graphemic similarity to the print on the page regardless of context (Biemiller 1970, Juel and Roeper-Schneider 1985; Weber 1970). Yet, these same studies also demonstrated that as the children's word recognition skills improved, their respect for context returned.

In the end, the young reader's tendency to subordinate internal coherence to the external stimulus seems not only temporary but also highly functional and characteristic of complex skill acquisition in general (Downing 1979: Karmiloff-Smith 1984, 1986). As the children internalize the spellings of more and more words, it will happen less and less often. Meanwhile, the only way for them to reach that point is by lending unfamiliar spelling patterns the attention they require.

Back to Whole Language

In summary, the attitudes about teaching and learning phonics and about the naturalness of reading acquisition that characterize the whole language movement date back to its very beginnings. Yet their continuing centrality to the rhetoric of the movement may be owed no less to their historical precedence than to the fact that, even in their introduction, they were tightly connected to the other issues of teacher empowerment, child-centered education, and the reading-writing connection. I believe, moreover, that it is these latter issues that inspire the deepest commitment and passion of the movement.

In particular, over the twenty years since the first publication of *Understanding Reading*, the whole language movement has become extremely important and extremely complex. To treat it today as an issue of phonics versus no phonics is not only to misrepresent it, but to place all of its valuable components at genuine risk.

Just sticking within the domain of first-grade language arts instruction, the goals of the whole language movement are many and complex. It is an acknowledgement that there is more to reading than phonics; and through such activities as read-alouds, big-book sharing, language experience, and creative writing, it is an effort to invite active

exploration and appreciation of its many dimensions. It is a reaction to mindless worksheets designed to occupy rather than instruct; and it is a movement to replace them with activities that will usefully develop and enrich. It is a reaction to boring, overly controlled stories in children's reading books; and it is a movement to provide text that's worth reading and learning to read. It is a reaction to compartmentalization of instruction. Instead of doing reading before or separately from writing and spelling, it's a movement to develop these disciplines together; and more, it's a movement to do science and math and literature through reading and writing and vice versa. Both theory and research indicate with unqualified force that this sort of integration is incredibly important for productive education (Adams 1989).

In this spirit, the whole language movement can be seen as but one reflection of a broader movement—a movement that extends across the curriculum, that grows from a profound reconception of the goals of education, and that is fueled by concern over productivity and competitiveness in the information age. The purpose of education can no longer be to help students acquire any simple and listable set of facts and skills. It must instead be to help them acquire knowledge and understanding in the deepest and most useful senses of those words. What our students need most is to develop the thoughtfulness to discern when and what they do not understand, along with the confidence and capabilities to go out and learn it on their own. In its quest for integration across the curriculum, the whole language movement offers itself in vital recognition of these changing goals.

Whether or not Smith gave it "scientific legitimacy," the empowerment prong of the whole language movement was undoubtedly furthered by the "blame-it-on-the-teacher" rhetoric of the eighties. I have never met a teacher who didn't care deeply about her or his students' progress and well-being. But even while teachers are entrusted with our most precious resources, they are rarely given the respect of the office. America's denigration and neglect of teachers is as thoroughly unfair as it is destructive: In the classroom, where success depends so critically on sensitivity and flexibility, there is neither room nor time for the paralysis of defensiveness or demoralization. To the extent that the whole language movement serves to restore the confidence, authority, and self-esteem on which good teaching depends, it is invaluable.

Last but not at all least is the issue of child-centered education. Children's knowledge and preparedness for reading differ in as many ways as reading is complex. Effective instruction therefore depends on a deep, thorough, and flexible understanding of the knowledge and processes involved in reading and of how they vary across development and children. Yet its realization depends additionally on constant and acute sensitivity to each child's person and progress - on meeting and responding to each child's needs by building on her or his strengths, interests, and confidences. The whole language movement is a valiant effort to remind us that effective instruction is accomplished not through prescription, censure, or regulations, but by teachers and children. Properly, then, the whole language movement should be a core component of a long overdue and highly constructive educational revolution. It should be about restoring the confidence and authority of teachers. It should be an affirmation that education can only be as effective as it is sensitive to the strengths, interests, and needs of its students. The whole language

movement should be about displacing compartmentalized instruction - and rote facts and skills. And it should be about displacing such outmoded instructional regimens with highly integrated, meaningful, thoughtful, and self-engendering engagement with information and ideas.

If, in fact, these are goals that drive the whole language movement then they must be supported wholeheartedly by all concerned. These goals are of paramount importance to our nation's educational health and progress. At the same time, however, they are strictly independent from issues of the nature of the knowledge and processes involved in reading and learning to read. Only by disentangling these two sets of issues, can we give either the attention and commitment that it so urgently deserves.

Postscript

Understanding Reading, now in its fourth edition (1988) [sixth edition (2004)], continues to be reissued and broadly received. Across editions, the book has become permeated-even more so than was *Psycholinguistics and Reading* (1973) - with polemic, conjecture, name-calling, and even material that I can only interpret as willful misconstruals. Sadder still, Smith has barely modified his "scientific" arguments. Instead, he has prefaced the fourth edition of the book with a blanket repudiation of the more recent research that has proved inconsistent with his original insights. Pointing to the widespread use of computers in contemporary research, he indicts it en masse for having shaped and been shaped by an insidiously mechanistic, and dehumanizing view of reading, writing, comprehension, thinking, and other aspects of mental life. He flatly states, "Cognitive science has not led me to make radical changes in matters concerning theories of reading in the present edition" (Smith 1988, p. ix).

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I first read "Why Not Phonics *and* Whole Language?" on September 26, 1998. It was over a year later that I read Adams' 1990 *Beginning to Read: Thinking and Learning about Print*. Both the article and the book had a profound impact on my thinking. They were especially helpful in providing me with the criterion for selecting good beginning reading instruction materials and techniques for my classroom. They were also effective antidotes to all the whole-language training that I had been receiving at countless teacher workshops.

I delighted to be able to publish the article in a free, easily accessible format in order to secure a wider readership. The information needs to be better known because Frank Smith's books and influence are still with us. There is a sixth edition of *Understanding Reading* available at the present time (Lawrence Erlbaum, 2004, Routledge 2012). *Reading Without Nonsense* is in its fourth edition (Teacher's College Press, 2005). He has a shorter book available, *Reading FAQ: Expert Answers to Frequently Asked Questions* (Teacher's College Press, 2007). The title of his 2003 *Unspeakable Act, Unnatural Practices: Flaws and Fallacies in "Scientific" Reading Instruction* pretty well expresses his antipathy to phonics instruction. The last book is published by Heinemann (longtime whole-language publisher).

Here is a link to Mrs. Adams' valuable article on "The Three Cueing Systems:"

http://www.ednews.org/articles/6017/1/The-Three-Cueing-System/Page1.html

I have also published Marcia. K. Henry's excellent article, *Organizing Decoding Instruction* from the same book. This explains her great program WORDS, which I have used extensively in my tutoring.

http://www.donpotter.net/pdf/organizing_decoding_instruc.pdf

A lot of valuable free information on reading instruction is available from the Education Page of my web site: www.donpotter.net

I would like to express my tanks to Mrs. Adams and the International Dyslexia Society (http://www.interdys.org/) for permission to publish this invaluable article for wide distribution in an easy to download format on the Internet.

Teachers interested in the practical implications of Dr. Adams' article would do well to purchase her twin books for young children: *Phonemic Awareness for Young Children* and *ABC Foundations for Young Children*. I consider the last book of particular value and recommend that every parent and pre-kindergarten teacher study it thoroughly.

Mr. Potter last revised this document on July 23, 2015.

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Some Internet Resources on Whole Language by Advocates

June 2, 2021

Psycholinguistic and Reading (1973) by Frank Smith.

https://archive.org/details/psycholinguistic0000smit/page/n5/mode/2up

Understanding Reading: A Psycholinguistic analysis of reading and learning to read (5th ed., 1994) by Frank Smith.

https://archive.org/details/understandingrea0000smit

Reading Without Nonsense (3rd ed. 1997) by Frank Smith.

https://archive.org/details/readingwithoutno00smitrich

Language and Literacy: The Select Writings of Kenneth S. Goodman (1982)

https://archive.org/details/languageliteracy0000good/page/n5/mode/2up

Phonics Phacts: A common-sense look at the most controversial issue affecting today's classrooms! (1993).

I read this in 1999. I wrote on my copy, "An honest researcher looks at all sides and beyond." I was, and still am, puzzled that someone who knew so much about phonics failed to understand its importance. On page 52, he wrote, "What could explain this (words were easier to read in real stories than lists, DP)? I've spent a good part of my life finding out. I've studied the reading miscues of hundreds of kids at all levels of reading ability. The heart of what I have learned is this: *reading is making sense of print, and that's a much more efficient process than accurately identifying words*." The italics are his. How did he think anyone could make sense out of a text if the word identification is inaccurate?

https://archive.org/details/phonicsphacts0000good

Studies in Miscue Analysis: An Annotated Bibliography. (1996)

The "Preface" by Goodman is a good source of historic information. I was trained in Miscue Analysis, of which Running Records are a good example. I found them time consuming and not very revealing.

 https://archive.org/details/studiesinmiscuea00brow/mode/2up

A master work of the Whole Language movement is *Constance Weaver's Reading Process and Practice*. (3rd ed. 2002). If teaching reading were as complicated as she makes it, I would give up tutoring and take up something simpler like Rocket Science.

https://archive.org/details/readingprocesspr0003weav/mode/2up

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