

Understanding and Solving the Reading Crisis in America

Introduction

Since the dawn of creation, man has communicated through spoken language. For most children, in fact, the ability to talk naturally develops without formal instruction. Reading and writing are completely different entities, however.

A fundamental fact we must remember is that written language was developed in order to record our spoken language. Speech sounds are the foundation upon which the writing code was formed. Speech sounds are audible, consistent, existed before written language, and are in a sense "real". They existed well before written language was developed and would continue to exist even if all written records of our civilization were destroyed. Letters in English are merely the arbitrary, manmade, unstable code that we use to represent speech sounds on paper. As with all codes, of course, English was designed to be reversible. You can write it into the code (encoding or spelling) and transfer it back (decoding or reading).

The key is to remember that sounds are the building block.

The Reading Crisis in America

Media reports in this country often focus on the high illiteracy rates that plague our nation's schools. Parents, educators, and politicians have been led to believe that many of our children are failing to learn to read. Yet, several questions remain. Just how serious is the problem? And have objective studies been done to assess the nation's literacy rate accurately?

Until recent years, the testing that had been done to examine this country's illiteracy rate had been nonexistent or poorly done. Conventional wisdom told us that many children were not learning to read, yet that was often purely speculative, based on tests given by classroom teachers, or declared after the review of large group standardized tests. For example, the California Test of Basic Skills (CTBS) allows educators to compare individual children to a large sample group. Ultimately, however, this only reveals where a child's skills rank compared to the whole group. If the whole group is reading at low levels, then an average reader is actually a poor reader!

The National Assessment Governing Board, working with the National Center for Education Statistics, has tested students nationwide in a study that cleared up many of the methodological and sampling problems of past research (NAEP, 2000). Students were rated at four levels: Below Basic, Basic, Proficient and Advanced. In a 2000 national study, 37 percent of fourth grade students were rated Below Basic. In other words, 37 percent of those tested were functionally illiterate! In the same study, only 32 percent of students were at or above the acceptable level of Proficient. It's amazing to realize that over one third of our students are functionally illiterate and only approximately one third of our students are proficient readers!

These sobering results also held true in a 1992 study of 26,000 adults by the same group (NAEP 1992). Adults were expected to read test materials that were designed to be reflective of reading they would regularly need to do in everyday life. Level 1 required a minimal level of competence. Overall, 22 percent of the adults tested were at Level 1 or lower. For the whole population, that translates to roughly forty-two million American adults who are functionally illiterate! Forty-eight percent of the adults were at Level 2 or lower, barely literate. Only three percent of all adults reached the highest level, Level 5. Indeed there is a reading crisis in America!

To a large degree, this crisis can be attributed to the fact that the most prevalent reading programs in use in this nation's schools are insufficient. As a result, not only do many children in elementary school fail to learn to read, but also a majority of these children never catch up and actually get worse over time (Fletcher and Satz 1980). Likewise, the vast majority of children in special education programs make no progress whatsoever (Truch 1994).

Three Reasons Why Many Never Learn to Read

#1 Reading is difficult because English is confusing.

Throughout history, a variety of different writing systems have been developed. Two cultures—the Sumerians and the Chinese—developed syllable based writing systems, and researchers have found that all other cultures used some type of sound-based unit for their writing system (McGuinness 1997). In order to develop efficient writing systems, the goal was to minimize the number of symbols that needed to be memorized. If a language allowed, use of an alphabet was avoided. The Phoenicians, for example, developed an early writing system that was partly like an alphabet, using only consonant sounds. Another type of writing system is the consonant-vowel (or CV) writing systems, which is also called a diphone system (diphone means “two sounds” in Greek).

Our English language could not be written using a diphone system for two major reasons. First of all, the English language has a complex syllable structure. It has 15 possible syllable structures instead of just a simple CV pattern like a baby saying 'da-da' or 'ma-ma'. Secondly, due to its Germanic roots, English frequently uses consonant clusters (two or three consonants together like: stretch, brunch, thrift, cramp, etc.). A syllable-based system would not have worked for English either since English sounds can combine to form over 55,000 syllables. As a result, English must be written with an alphabet, although it's an imperfect alphabet at that!

So what does an ideal alphabet look like? A true “phonemic” alphabet uses the most basic sound units (phonemes) that people can hear and gives each individual sound a unique symbol (what we refer to as letters). The alphabetic code should have no alternative spellings for a sound, and the symbols should not overlap to represent more than one sound. If an alphabet is designed in this fashion and taught properly, it can be a very efficient way to teach reading and writing. The Greeks were the first to develop such a system when they had one symbol for each consonant and each vowel sound.

Let's see how English measures up to these strict standards of a “pure” and efficient writing system. The biggest problem with English is that there is not a perfect one to one correlation between the sounds and letters. English has a 26-letter alphabet; however, it contains 43 sounds (26 consonants and 17 vowels). To make up for this shortage of letters, the use of two letters is often required to represent a single sound (as in ch, ng, qu, sh and th). Furthermore, four letters (c,x,w,y) are essentially useless because they

borrow sounds represented by other letters. For example, the letter c borrows the sounds /k/ as in cat and /s/ as in city.

Another problem stems from the fact that only a few sounds are consistently represented by just one symbol (as with the letters b, d, p). In fact, it's more common for a sound to have multiple spellings. For example: the /o-e/ sound can be spelled in many different ways: coke, total, boat, flow, sew, and dough. Furthermore, some letter combinations can overlap to represent numerous sounds. For example, the letter 'u' is involved in several vowel sounds: cut, full, cute, burn, and ruin. As this analysis clearly illustrates, English is far from being a perfect alphabetic writing system.

Reading English is also difficult because auditory analysis (the "ungluing" and examination of distinct phonemes in words) is an extremely demanding task. Writing alphabetically forces us to divide sounds in abnormal ways that are very different from how we talk. For example, we hear our friends ask us, "Howuzyorday?" as if they are saying one complete word instead of as isolated sounds and words. We also have a difficult time hearing distinct sounds in consonant clusters (like str, spr, ntch) or hearing consonants separate from vowels (to illustrate try to say /d/ and not 'duh'). Once phonemes are blended together into full words, the task of identifying the individual sounds in a word becomes extremely difficult.

#2 Reading is difficult because many lack the required underlying processing skills.

Parents, researchers, and educators have long wondered why some children fail to learn to read when other children in the same classroom with the same curriculum have learned to read. Is there something wrong with those who fail to read? Do they have some sort of disorder? Let's examine the research to see what factors do and do not play a role in reading failure.

Dyslexia is a common diagnosis for individuals with reading problems. It's a Greek word meaning "poor with words," "poor reading," or "a disturbance of the ability to read." Those who believe that poor reading is due to a neurological disorder often use the term. The problem, however, is that this fails to consider normal variations of mental skills or abilities. Remember that reading has been invented and is not an innate, biological capacity of just one part of the brain. In fact, we actually use numerous parts of our brain to read. Deficiencies in particular mental skills - most often due to normal variation, not brain damage - are the neurological basis for a reading problem. Twenty years of research on the brain have conclusively shown that those diagnosed "dyslexic" do not have damage to any part of the brain (McGuinness 1997, page 118).

Others maintain that many children struggle with reading because of their "learning disabilities." The problem, however, is that a "learning disability" is not an objective, clear-cut diagnosis. Federal guidelines, under Public Law 94-142, set the criteria for the diagnosis of "learning disabilities" and funding for special education services. These guidelines utilize a "discrepancy model" to determine if there is a gap between IQ and reading (achievement). If the reading scores are approximately two years or more below the IQ (mental skills) scores, the student is labeled "learning disabled" (LD) and the school receives funding. Research indicates that the label for learning disabilities based upon the discrepancy model does not significantly correlate with reading scores (Fletcher, et al. 1994). Research has also found, however, that students with reading problems, regardless of IQ, score poorly on a test measuring the ability to analyze individual sounds in words (Pennington, et al. 1992).

Numerous other studies have also demonstrated a high correlation between the ability to read and understand text and the ability to hear and manipulate sounds in words (Rosner and Simon 1971; Calfee, Lindamood and Lindamood 1973; Liberman, et al. 1974). Although this skill has been called many different things (auditory processing, phonemic awareness, phonetic awareness, phonological awareness, or phonological processing), it can be summarized as the ability to 'unglue' sounds in words, blend sounds to form words, and analyze sounds within words. In other words, many students with reading problems struggle to hear, analyze, and separate the individual phonemes in words. Furthermore, it has been shown that children don't automatically learn to segment words into sounds simply because they are exposed to a reading system (Liberman, et al. 1974). In summary, research consistently shows that phonemic awareness is the major predictor of reading ability, independent of reading scores themselves (McGuinness 1997, page 133).

Other research has found that many poor readers struggle with verbal short-term memory as well. These students have more trouble repeating back lists of letters or words in a given sequence (house, car, fork, ball, etc.) and have abnormally slow naming times when they are presented with a list of pictures, letters, or digits (Liberman, et al. 1974; Denckla and Rudel 1976).

Yet another group of poor readers are those who have severe speech problems. These students have trouble hearing rapid transitions between individual speech sounds (particularly consonant contrasts like /ba/ to /da/). This ability to discriminate contrasts between consonant clusters can be easily trained, however. Although individuals with severe speech problems can struggle with reading, severe speech disorders affect only a very small number of children, three percent or less according the National Speech and Hearing Survey (Hull, et al. 1971).

Other factors that impact learning to read to a lesser degree include attention and visual processing. Although attention is important for every learning task, visual processing plays its greatest role in reading comprehension. Inheritance is also a factor, but poor reading is not inherited (McGuinness 1997). Reading cannot be coded in genes anymore than any other skills such as typing or playing the piano. What may be inherited is not a reading problem, but the tendency to have difficulty blending, segmenting, and analyzing sounds. Once again, however, these problems can be corrected.

#3 Reading is difficult because it's often taught incorrectly.

By the start of the twentieth century in the United States, larger class sizes, age grouping, and teachers lecturing from the front of the class became the norm. All students were expected to do the same thing at the same time. Under this system, many children have struggled to learn to read, so a variety of different approaches to reading instruction have been used in the hope of finding a better approach. Unfortunately, each strategy has failed a large percentage of our students. Various teaching methods have become educational buzzwords and then fallen from favor again. These include phonics, look-say, whole language, and mixes of the others. Educators swing from one end of the spectrum to the other in terms of what is the "right" way to teach reading. Let's quickly look at these various methodologies and why they have failed to teach so many students to read.

Jeanne Chall wrote a well-known book called, "Learning to Read: The Great Debate" (1967). In it she pointed out that reading methods were generally on one end of the spectrum or the other: "phonics" or "read for meaning/whole word" approaches. Although at the time of her writing the "look-say" method was the "whole word" approach, today many see that the debate still centers around only two choices: "phonics" or "whole language." In order to better understand the "debate," let's take a closer look at each method.

Whole word, "read for meaning" methods like "whole language," and especially "look-say" which preceded it, are based on the central assumption that reading develops naturally in the same way as speaking does. Proponents of whole language begin with the premise that children can easily memorize letter patterns standing for whole words as they are exposed to good literature. These experts believe that meaning can be readily derived from context clues, pictures, sentence structure, grammar, the appearance of the full word, and a natural understanding of sound patterns in speech. Essentially, they hold that readers should "use the least amount of information possible to make the best guess possible," rather than sounding out words letter by letter (Goodman 1976).

Research indicates that whole language-type approaches are highly ineffective, however. First of all, a whole word writing system can't work because evidence indicates that there is a natural limit on human memory of approximately 2000 symbols (McGuinness 1997). We simply cannot memorize by sight all of the English words commonly used in writing. Furthermore, the assumption that children will naturally be sensitive to individual phonemes has been repeatedly disproven (McGuinness 1997). In summary, whole language or look-look-say approaches are not effective reading instruction approaches (McGuinness 1997, page 55).

In response to the failure of whole language, there has been a revival of "phonics" (Greek for "sounds")...a revival of the principles of Rudolph Flesch's 1955 book *Why Johnny Can't Read* which popularized the need to return to memorizing the sounds of our letters. Phonics has varied meanings in educational circles today but is broadly understood to represent any program teaching "sounds" versus whole language. According to Webster's Dictionary, phonics is "a method of teaching beginners to read and pronounce words by learning the phonetic value of letters, letters groups, and esp. syllables." In other words, phonics teaches, "letters have sounds." This definition seems to describe the overwhelming majority of today's phonics programs aptly and reveals the fundamental flaw of all such programs: they teach the alphabetic principle backwards! *They instruct that "letters have sounds," rather than teaching that our speech has sounds which are represented in writing by letters.*

Furthermore, we have 26 letters but 43 sounds in the English language. Phonics programs fail to teach all 43 phonemes and all of the alternative spellings for those sounds. They teach a number of reading and spelling rules, which actually fail a large percentage of the time. They do not teach or bring to an automatic level, skills of phoneme analysis, segmenting, and blending. Phonics programs also use misleading and incorrect language by consistently referring to "silent letters," "long" and "short" vowels, etc. Additionally, they often teach consonant clusters, and word families are often taught incorrectly as only one sound. Although this just briefly highlights some of the major weaknesses of phonics programs, you can begin to see why even the best phonics programs have a fail rate of around 30 percent (McGuinness 1997, page 345).

While many simplify the debate about which approach to reading is best to a choice between phonics or whole language, other reading programs try to blend bits and pieces of both approaches. Due to the shortcomings of each approach separately, however, these blended approaches also fall far short of what is required to teach all children to read. Combining two poor

approaches does not result in a fantastic reading program! In fact, an eclectic approach, with over 40% failure, “wastes three years and derails many children” (McGuinness 1997, page 33).

Examples of Types of Poor Readers

Unfortunately, when children are not taught the reading code correctly, they end up either using an incorrect decoding system or having to develop their own. Perhaps you will recognize yourself or your child frequently making one of the following errors when reading:

- *Assembling word parts* - The most common type of reading strategy in 3rd grade. The child breaks the word into small pieces. Often these are not real words and letters are used in several word parts.
'plank' is read as 'plan-ant' or 'literature' is read as 'lite-rat-ture'
- *Common pronunciation errors* - These are accurate and phonetically correct decodings of irregularly spelled words.
'honey' is read as 'hone-ee' or 'there' is read as 'theer'
- *Whole word guessing* - The child reads the first letter(s) accurately and guesses a known word, which is similar in length and form.
'fork' is read as 'food' or 'spoon' is read as 'span'
- *Limited code knowledge* - The child has an incomplete knowledge of the spelling code. As a result, they will write the correct number of sounds, but the incorrect spelling.
'made' is written as 'mad' or 'pout' is written as 'pot'
- *Complete guessing* - Guessing at words based upon the context.
'the' is read as 'fun' or 'big'
- *Letter naming* - The child reads the word by saying the letter names.
'punch' is read as 'peeuhenseeaetch'

The shortcomings of all common approaches currently used to teach reading leaves one big question: Is there an approach that works? Is there a system “beyond phonics”? Does a reading program exist that teaches the code correctly? Will it teach all students to read and spell quickly and efficiently?

We believe that the answer to all of these questions is a resounding yes! But we must urge you to not leave this to chance. Unless children are systematically taught, they will adopt some type of reading strategy, whether right or wrong. Thus, we must be certain that they are being taught correctly.

A Good Reading Program Must...

Teach underlying skills

Since sounds (not syllables, blends, full words or rhyming combinations) are the key that unlocks our English writing system, successful readers must be taught to segment (pull apart), blend (put together) and analyze words at the sound (phonemic) level.

Use a sound to code basis

Good reading programs teach the sound code for the 43 phonemes (individual sounds) of the English language as well as the alternative spellings for those sounds. By learning that letters or letter combinations stand for specific sounds of speech, reading and spelling are taught concurrently.

Handle the alternative spellings of sounds and the code overlap

After the student has learned the most probable spelling for each sound, the less probable (alternative) spelling should be introduced. Overlaps of the code, in which a letter or letter combinations represent more than one sound, must also be taught.

Reading Programs That Get Results

The most successful reading programs (those that get the biggest, quickest reading and spelling improvement with the highest percentage of students) are those that incorporate most of the above components. Of the hundreds of reading programs available, the three that come closest to the standards listed above are the Lindamood Phoneme Sequencing Program (LIPS), Phono-Graphix, and Master the Code (MTC).

Although the results vary by study and can depend upon the ages or types of students involved, these programs generally achieve two to three times the improvement as other reading programs.

“Master the Code” is the newest of these reading and spelling programs. It is based upon the most recent scientific research and incorporates all of the components of a good reading program. Although the other programs mentioned above include the key components needed to remedy reading difficulties, we believe “Master the Code” has several unique and important differences.

“Master the Code” Has Unique and Important Differences

MTC develops underlying skills

MTC recognizes that some students do not bring sufficient cognitive skills to the task of learning the reading code quickly and efficiently. Even if the code is taught completely and sequentially, a student who has a severe auditory processing deficiency, is not concentrating adequately, works too slowly, has poor memory skills, or cannot create good mental images will complete lessons very slowly or exhibit poor retention. When these skills are in place, however, students learn rapidly. Master the Code has been designed to remedy these significant problem areas.

Embedded within MTC are procedures that evaluate, pinpoint, and develop to advanced levels the underlying mental skills required to assure fast and efficient learning-to-read skills. (MTC has been developed by the world's leading cognitive training company – PACE). Some of these skills include:

- Memory (the ability to remember the sound-symbol relationship)
- Segmenting (the ability to separate or unglue sounds)
- Blending (the ability to put together sounds to form words)
- Auditory analysis (the ability to manipulate or analyze small changes in groups of sounds)
- Processing Speed and Working Memory (the ability to retain incoming information and properly process it quickly)
- Attention (the ability to stay on the given task)
- Visualization (the ability to create and use mental images)

MTC is properly sequenced

To handle the complex logic of our alphabet code, a child must have mastered each level of complexity in carefully sequenced steps.

MTC starts with blending, segmenting, and sound analysis. To teach these skills, nonsense words are used so students do not rely on their memory of known words. Practice is provided in segmenting words into isolated phonemes and also blending isolated sounds into words. Encoding (spelling), decoding (reading), and writing exercises are used so that the reversibility of the code is made clear.

Some students struggle to correctly pronounce and differentiate between all of the sounds of the standard English language. These individuals get more direct instruction at a sensory level about how parts of the mouth (jaw, teeth, tongue, lips, vocal chords) interact to form the individual sounds.

Initially the twelve consonant sounds with only one main spelling - or one spelling by position in a word - are taught (d= /d/ as in 'dog' or 'fed'). Then, the remaining twelve consonants and their most likely spelling are taught (/ch/ = ch as in 'chip' or 'much'). The 18 vowel sounds are also taught from simple to complex. First, sounds spelled with the five vowel letters are taught /a/ /e/ /i/ /u/ /o/. Then, the e-controlled sounds /a-e/ /ee/ /i-e/ /o-e/ /u-e/, followed by the 'o' vowels sounds: /oo/ /oo/ /ou/ /oi/. Finally the vowel + r sounds are taught (/er/ /or/ /ar/ /air/).

After the student has learned the most probable spelling for each sound, the less probable, alternative spellings are introduced. For example, the /n/ sound can be represented by an n ('note'), kn ('knot') or gn ('gnat'). These alternative spellings are taught from most likely to least likely. Through use and drill, the letter patterns and the probability of their appearance are stored in long-term memory. This enables an individual to choose the most likely spelling for a word instead of randomly guessing.

Overlaps of the code, in which a letter or letter combinations represent more than one sound, are also taught. For example, the letter u can be involved in a number of different sounds: cut, full, cute, and ruin. Such overlaps often create problems when reading. Various exercises are utilized to quickly teach how letters overlap to various sounds as new vowel spellings are introduced. The MTC method of handling alternative spellings and code overlap without memorizing rules reduces "sight words" that are taught in many classrooms by about 75%.

MTC uses a unique methodology

MTC embeds the standard English reading code to an automatic level instead of passively teaching lessons that are easily forgotten in a short period of time. It is especially beneficial for older readers who have developed many bad reading habits and will fall back into old ineffective reading patterns if the skills are not taught appropriately and brought to an automatic level. MTC uses the following training techniques to get its tremendous results:

- **Immediate feedback** (one-on-one training allows for immediate correction of errors and encouragement of correct responses).
- **Concentration** (the training drills require full attention which brings faster results because of less time off task).
- **Sequencing** (an introduction of tasks and information from simple to complex in small enough steps so that new material can be mastered quickly and easily).
- **Stretching** (constantly pushing activities to more demanding levels that challenge or stretch the student skills to improve).
- **Loading** (adding a task upon a task concurrently thus forcing automation and mastery of skills to a subconscious level).

Using these techniques and making the sequence of the reading and spelling instruction in agreement with the logic of our alphabetic system results in the most rapid mastery and automation of reading and spelling of standard English.

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