

SKILLS NECESSARY FOR PROFICIENT READING

This section lists and describes individual skills and elements necessary for developing proficient reading. The child needs to master, integrate, and apply these skills in order to develop proficient reading. Reading is a complex learned skill. The most effective and efficient way to ensure a child learns is to directly teach all necessary skills to the child. **Figure 1** on page 15 depicts the necessary skills and integration of these skills in the process of proficient reading.

The list of essential skills necessary for proficient reading was compiled from validated scientific research found in the National Reading Panel's "Teaching Children to Read" Summary Report (www.nationalreadingpanel.org/publications/summary.htm), the University of Oregon "BIG IDEAS in Beginning Reading" (<http://reading.uoregon.edu/>), and various articles on the amazing neuroscientific research on how the brain functions in proficient reading. In addition, this list was supplemented by the author's experiences carefully observing children learning to read, evaluating specific errors struggling students made, and learning techniques to help children achieve reading success.

A. Fundamental Skills Necessary for Proficient Phonologic Processing

1. Phonemic Awareness: Phonemic awareness is literally 'sound' awareness. It is the ability to understand words are made up of sounds and to be able to hear, recognize, and manipulate individual sounds of a word. Phonemic awareness (PA) is an auditory skill of distinguishing and recognizing the sound structure of language. For example, PA is realizing the word 'puppy' is made up of the sounds /p/ /u/ /p/ /ee/ or the word 'shape' is formed by the sounds /sh/ /ay/ /p/. Phonemic awareness, or developing an 'ear for sounds', is critically important to reading and spelling success.

Individuals vary greatly in their natural ability to hear sounds within words. Some individuals have a definite phonological weakness and do not realize the words they hear break apart into smaller chunks of sound. Hearing the individual sounds within a word *is* difficult because spoken language is seamless. When we speak, we naturally and effortlessly blend all the sounds together to say and hear the overall word. The natural ease of seamless speech hides the phonetic nature of our spoken language. For example: The child says and hears the word "puppy" as one seamless word /puppy/ and does not recognize or distinguish the separate sounds /p/ /u/ /p/ /ee/ that make up the word.

Research shows children with poor phonemic awareness struggle with reading and spelling. Individuals who do not distinguish and recognize the sounds within spoken words have difficulty developing the necessary link between print and sound critical to proficient reading and spelling. It is important to realize natural phonological abilities are not related to intelligence. Highly intelligent individuals can have phonological weakness that leads to reading difficulty. In addition, tendency for phonologic weakness may be an inherited trait as it appears to run in families.

Although some individuals have a definite natural phonological weakness, the good news is phonemic awareness can be taught and learned. We have validated scientific evidence that PA instruction has a significant positive effect on both reading and spelling.¹ You can directly help children develop the necessary phonemic awareness skills.


PA development /instruction should include the following specific skills:

- The ability to isolate and distinguish individual sounds (fish starts with /f/, 'cat' ends with /t/)
- The ability to identify phonemes ('bat' and 'boy' start with the /b/ sound, 'tall' & 'toy' start with the /t/ sound)
- The ability to categorize similar sounds and recognize phonemic patterns: this includes the ability to recognize rhyming words (cat, mat, fat, and sat rhyme) and the ability to recognize similarities and differences in a group of words (bake and bike start with the same sound but they do not rhyme) or (in the group of words 'bug', 'rug', 'run' and 'hug', the word 'run' is different)
- The ability to segment phonemes in a word (the word 'cat' is made of the sounds /k/ /a/ /t/, the word 'shake' is made up of the sounds /sh/ /ay/ /k/)
- The ability to blend sounds together (the sounds /h/ /or/ /s/ put together make the word 'horse')
- The ability to delete phonemes. (Say 'train' without the /t/ & the child says 'rain' or 'mud' without the /d/ is /mu/)
- The ability to manipulate phonemes making changes/substitutions (What would the word 'milk' be if it started with the /f/ sound instead of the /m/ sound? and the student can say 'filk/')

¹ National Reading Panel's "Teaching Children to Read" Summary Report www.nationalreadingpanel.org/publications/summary.htm

It is important to realize oral PA instruction alone is not sufficient. Research shows PA instruction is most effective when children are taught to manipulate sounds *with letters*. In other words, the greatest effectiveness in helping children learn to read occurs when oral PA training (recognizing the sounds) is linked directly to the printed letters (knowing the specific black squiggles). The child needs to recognize the word 'fire' starts with the /f/ sound AND know this /f/ sound is represented by the printed letter 'f'. To read, the child must link oral PA skills directly to the printed phonemic code.

2. Knowledge of Complete Phonetic Code: The complete phonemic code is the entire set of printed symbol=sound relationships written English is based on. The child needs to acquire knowledge of the *complete* phonetic code. Knowing the basic alphabet is not sufficient to read our complex English language. The child needs to learn all the phonograms. Phonograms are the distinct printed letters or combinations of letters symbolizing specific sounds within written words. Depending on classification, there are between 70 to 80 distinct phonograms. In addition to 26 single letters of the alphabet, the child needs to learn the consonant digraphs (th, sh, ch, wh, ck...), vowel combinations (ee, oa, oe, ai, ay, oi, oy, ea, ow, ou...), r-controlled vowels (ar, or, ore, er, ur, ir, air...), the 'bossy' letters that modify adjacent sounds (w+a, a+l,...), the multiple or alternate sounds for many phonograms (s = /s/ & /z/ , ow = /ow/ & /oa/...), and other complexities (ph, igh, ough...). It is no surprise vowel combinations and complexities are frequently a source of reading and spelling difficulties. Many children lack necessary knowledge of the complete phonetic code. We often fail to teach these complexities or teach them in an indirect, incomplete or haphazard manner. Although it *is* complex, English is not random chaos. When *all* sounds are learned and patterns practiced, most words *can* be phonetically decoded.

To read proficiently, the child must process print phonetically by converting printed letter(s) directly to correct sound. The child needs to learn the sound the letter represents, not the letter name. For example, for the letter 'h' the sound is /h/ not the letter name /aych/. Correct pronunciation is also important. For example the letter 'd' has a quick sharp /d/ sound not a long /duh/. The child also needs to accurately convert the printed phonograms directly to sound. Avoid indirect processing as it is inefficient and makes reading harder for the child. Indirect processing relates print to a known object or word, then extracts the sound from that word. For example if you see 'oy' in 'destroy' and have to think 'oy' is in the word 'boy' and therefore determine indirectly the 'oy' must have the same /oy/ sound instead of directly processing 'oy'=/oy/. Other indirect approaches link printed letters to a word/object ('b' = book), or to a picture ('b' = ) instead of direct print to sound (b=/b/). Efficient processing requires a direct *accurate print = correct sound* relationship.

The goal is for the child to automatically know the printed alphabetic character(s) sound association for the complete phonemic code. The child effectively learns this '*printed letter=sound*' association through direct instruction *and* repeated practice. When a sound is automatic, the child does not have to expend effort consciously recalling the sound and can then concentrate on higher reading skills. It is comparable to learning how to type. In keyboarding, you learn the association of finger movement for a specific letter. At first, a beginner looks at both the keyboard and their hands. After drill, he can type without looking by concentrating on what finger to move. With additional direct practice, the typist improves in proficiency to the point where keyboarding is automatic. When you are no longer spending mental energy on remembering finger placement, all your concentration can then focus on the material. The same concept applies to reading. The objective is for the child to establish direct automatic print=sound code knowledge. The most effective way to ensure children acquire knowledge of the complete phonemic code is to directly teach them all the phonograms.

3. Directional Tracking: In English, we read and write from left-to-right. Proper directional tracking of looking at and processing all the letters *in order from left-to-right* is essential for reading success. Although this simple sub-skill may appear self evident, many children do not apply this essential element. Remember, scanning left-to-right in a straight line is *not* a natural process. Instinctively, looking all over is a superior way to gather information. Left-to-right processing is one of the arbitrary artificial components of written English the child must learn and automatically apply. Knowing the individual sounds is not sufficient. For accurate reading, the child *must* process sounds *in order from left-to-right*. The following words demonstrate the importance of processing order: (stop-pots-tops) (thorn-north) (no-on) (miles-limes-smile) (step-pets-pest) (every-very) (felt-left). Poor readers frequently make errors processing letters out of order. They often exhibit erratic eye movement as they jump around searching for 'whole words', familiar parts or word families. These incorrect tracking strategies contribute to reading difficulty. To read proficiently, the child must not only know the individual sound but must process all letters in order left-to-right. The most effective way to ensure the child acquires this essential skill is to directly teach and require proper directional tracking. A detailed article on directional tracking is found at www.righttrackreading.com/tracking.html

4. Blending: To read proficiently, the child needs to learn to blend individual sounds smoothly together into words without choppy pauses between the sounds. This essential blending skill does not come easily and automatically for some students. Some children's inability to blend smoothly creates a hurdle that blocks reading development. If a child segments or chops sounds apart he is not able to put all the sounds together to 'smoothly' say the word and build fluency. The child might know the sounds in isolation but is unable to 'hook' the sounds together. He may initially get by with short words but quickly runs into trouble with longer words containing four or more sounds. To avoid potential difficulty, it is important to directly teach smooth blending skills from the beginning. For example, this is teaching the child to read the word 'mast' with smoothly blended sounds /mmaasst/ instead of a choppy /m/.../a/.../s/.../t/. When sounding out it is essential the teacher demonstrates the correct blending skills of not stopping between the sounds. Teach smooth blending skills from the beginning and specifically work on this skill with any child that has difficulty blending smoothly. A detailed article on blending can be found at www.righttrackreading.com/blending.html

5. Attention to Detail: Attention to detail is carefully looking at all the letters/sounds in a word. The details are critical to accuracy. Skilled reading involves focus on the internal details of the word. The child must process all sounds in order, without skipping, adding or changing any sounds. Words are too similar (insist-insect-inspect) (stain-strain) (form-from) (tree-three-there) (then-than) (change-charge) (strange-strong-string). Only 26 letters make up over a quarter of a million distinct words. Listen to children who struggle with reading and you will quickly observe numerous errors because they fail to process details. Despite some erroneous claims, the fact is children can *not* learn to read by only looking at the first and last letter. Skilled readers pay attention to the details. Not only are details critical for accurate reading but careful attention to detail is also essential in forming the accurate neural model of the word that allows development of fast/fluent reading. You can help a child develop the attention to detail skill critical to reading success. Paying attention to detail is closely intertwined with proper tracking and correct phonologic processing.

B. Combining Fundamental Skills To Develop Correct Efficient Phonologic Processing

Correct phonologic processing is a complex process and requires integration of many different fundamental subskills. Children need to convert print to sound so they can tap into the brain's phonologic processors designed for effortlessly processing spoken sound. To do this efficiently the child must recognize the sound structure of language (phonemic awareness), directly and automatically know the phonemic code including the complexities (knowledge of the complete phonemic code) and learn how to read by sounding out the word. The child needs to smoothly blend sounds together (blending), process print from left-to-right (tracking) and pay close attention to all the letters in the words (attention to detail). Learning the individual components in isolation is *not* sufficient. The child must not only master these individual skills but also integrate and automatically apply these skills when he reads. As with all learned skills, sufficient practice 'sounding out' words with correct phonologic processing is essential to developing proficiency. **Figure 1** on page 15 shows integration of these skills in the process of proficient reading

In summary, to become a skilled reader the child needs to develop a foundation of proficient phonologic processing. Parents and teachers can use effective instruction and targeted activities to directly help their children acquire the necessary foundational skills, learn to convert print to sound, and intentionally build phonologic processing pathways. When teaching beginners, it is imperative to directly help the child acquire skills and to also provide sufficient practice applying these skills. Help your child establish a strong phonologic processing so he can advance to skilled reading.

C. Advancing to Skilled Reading

Obviously proficient reading is more complex than simply establishing correct phonologic processing. While correct phonologic processing provides the essential foundation for accurate and effortless decoding, this is only the beginning. Children must also develop higher level skills in fluency, handling multisyllable words, expanding vocabulary, and improving comprehension. Children need to acquire these higher level skills to advance from the beginner level to skilled or proficient reading. The most effective way to ensure a child acquires important higher level skills is to establish a strong foundation of correct phonologic processing and then directly teach and develop the specific advanced skills. See **Figure 1** "Overall Processes Required for Proficient Reading" on page 15.

1. Fluency: Fluency is 'fast' or 'automatic' reading. Fluent readers are able to read quickly and accurately without effort. Fast oral reading with proper expression is a trademark of fluent reading. Fluency is critical to skilled reading and comprehension. By appearances, the student knows words instantly and reads the 'fast way' without slowly sounding out the word. It seems by 'knowing' the words the individual reads easily and quickly. However, it is important to realize appearances do **not** reveal the actual process involved in fluent reading. To help children become fluent readers, we need to study the specific process of fluent reading and understand how fluent reading is developed. The necessary information lies in the amazing field of modern neuroscience.

The remarkable advances in neural imaging research allow scientists to examine the process of fluent reading and how fluent reading is developed. Researchers are learning fluent or 'fast' reading utilizes a neural 'expressway' to process words. This 'fast reading area' of fluency is different from the slow phonologic processing pathways used by beginning readers. With fluent reading, a quick look at the word activates a stored neural model that allows not only 'fast' reading but also includes correct pronunciation and understanding of the word.

Importantly, neuroscientists are learning how fluency is developed. Fluent reading is established after the individual reads the word *at least* four times using accurate phonologic processing (slow accurate sounding out). Fluency is build word by word and entirely dependent on repeated, accurate, sounding out the specific word. Fluency is *not* established by 'memorizing' the appearance of a word but rather by developing a correct neural-phonologic model of a word. Therefore, reading a word over and over will *not* develop fluency *unless* the student is processing the print phonetically. The initial process of repeated sounding out 'engraves' a neural model of the word that then is stored in the 'fast reading area' available for rapid retrieval. Fluency is not visually recognizing an entire word but rather the retrieval of the neural model created by proper repeated phonologic processing. Neuroscience has revealed the initial stage of repeated slow 'sounding out' is the essential precursor for developing the advanced 'fast' neural pathways of fluent reading.

Neuroscientists also discovered dyslexic readers have not developed these fluent or 'fast reading' systems. Children who lack the essential foundation of phonologic processing fail to develop the 'fast' or fluent reading pathways. Because they don't sound out words, the neural phonologic 'engraving' of the word is never made and fluent reading is not developed. This is why struggling readers can see a word hundreds of times and never develop fluency on that word. Fluency is completely dependent on phonologic processing. Without express reading pathways, reading remains slow and laborious. These children may work hard and eventually learn to read accurately but they will not achieve the quick and almost 'effortless' process of skilled reading.

Effective reading instruction can directly help a child develop fluent neural pathways. First, intentionally establish the essential foundation of phonologic processing. Then, provide guided practice so the child repeatedly sounds out individual words consequently expanding his storehouse of neural models available for rapid retrieval. Fluency is developed word-by-word and is absolutely dependent on repeated accurate print to sound (phonologic) processing.

2. Skill in handling multisyllable words: Multisyllable words *are* harder to read than single syllable words. The majority of English words are multisyllable so it is critical children learn to read them effectively. Syllables are the chunks of sound within a spoken word said with a single puff of air. Every syllable has at least one vowel sound with or without surrounding consonant sounds. Multisyllable words are made up of a combination of these distinct sound chunks. To read multisyllable words the child has to break the word down by distinguishing and clumping appropriate sounds to form the correct syllables and then smoothly combine these correct sound chunks with the adjacent syllables into one fluid word. The child needs to capture *all* the appropriate sound chunks in the word without missing one or adding one that should not be there. It is tricky and takes application of proper strategies and practice to master this complex skill.

Some children automatically develop proper strategies for reading multisyllable words but many do not. Handling multisyllable words is a complex skill and beginning readers can run into problems handling these longer words. These children need to learn strategies for handling multisyllable words. The general rule of thumb is 1st graders need to easily read 1 syllable words, 2nd graders 2 syllable words, 3rd graders 3-syllable words and 4th graders need to easily handle 4 or more syllables. It is also important to realize, this more advanced skill of reading multisyllable words can not be proficiently mastered until *after* the child is able to automatically decode and blend the individual sounds. You can help a child develop proficiency in reading multisyllable words with direct instruction in strategies to handle these longer words and by providing guided practice in reading multisyllable words.

3. Vocabulary: As can be expected, vocabulary knowledge is important to reading development. Expanding a child's knowledge-bank of words he understands is important to reading comprehension. The greater the student's vocabulary, the easier it is to make sense of and understand text. Vocabulary refers to understanding individual words where 'comprehension' generally refers to understanding larger parts of text. Vocabulary and comprehension are interrelated.

Vocabulary knowledge is distinct from the skill of decoding print. A student can fully understand words he is not able to read/decode. For example a five year old has a much larger speaking and understanding vocabulary than a printed reading vocabulary. He may not be able to decode the printed words 'gorilla', 'vacation' or 'chocolate' but has the vocabulary knowledge to understand exactly what these words mean. In contrast, a child may be able to correctly decode a strange word perfectly and still not know what it means. For example, the child may correctly decode the words 'kelp', 'placid' or 'leviathan' but have no idea what these words mean. This lack of understanding is a vocabulary knowledge issue. Of course for comprehension, the child needs to both accurately decode the word *and* know what the word means. Expanding a child's vocabulary knowledge is important to reading development.

4. Comprehension: Comprehension is deriving meaning from the text. Comprehension goes beyond decoding the text to actually thinking about, relating to and understanding what the text means. Obviously, comprehension is vital to the development of skilled reading. Comprehension is an active process requiring thoughtful interaction between the reader and text. Comprehension is the goal of reading instruction.

Remember, to achieve comprehension, the student must *first* develop accurate phonological decoding skills and build fluency. Fluency and accuracy are critical to reading comprehension. If the child struggles with accurate fluent decoding, this inability to easily convert print into language will continue to limit reading comprehension. If decoding takes significant effort, the child has little energy left to devote to thinking about what he is reading. When the child easily, accurately and fluently decodes printed text, he then is able to focus energy on higher level comprehension skills.

Reading comprehension is a complex higher level skill that needs to be developed. It is important for children to develop comprehension strategies. Comprehension strategies focus on teaching students to understand what they read. While readers acquire some comprehension strategies informally, explicit or formal instruction in the application of comprehension strategies has been shown to be highly effective in enhancing understanding.² In other words, you *can* take specific actions to help students develop comprehension strategies and skills.

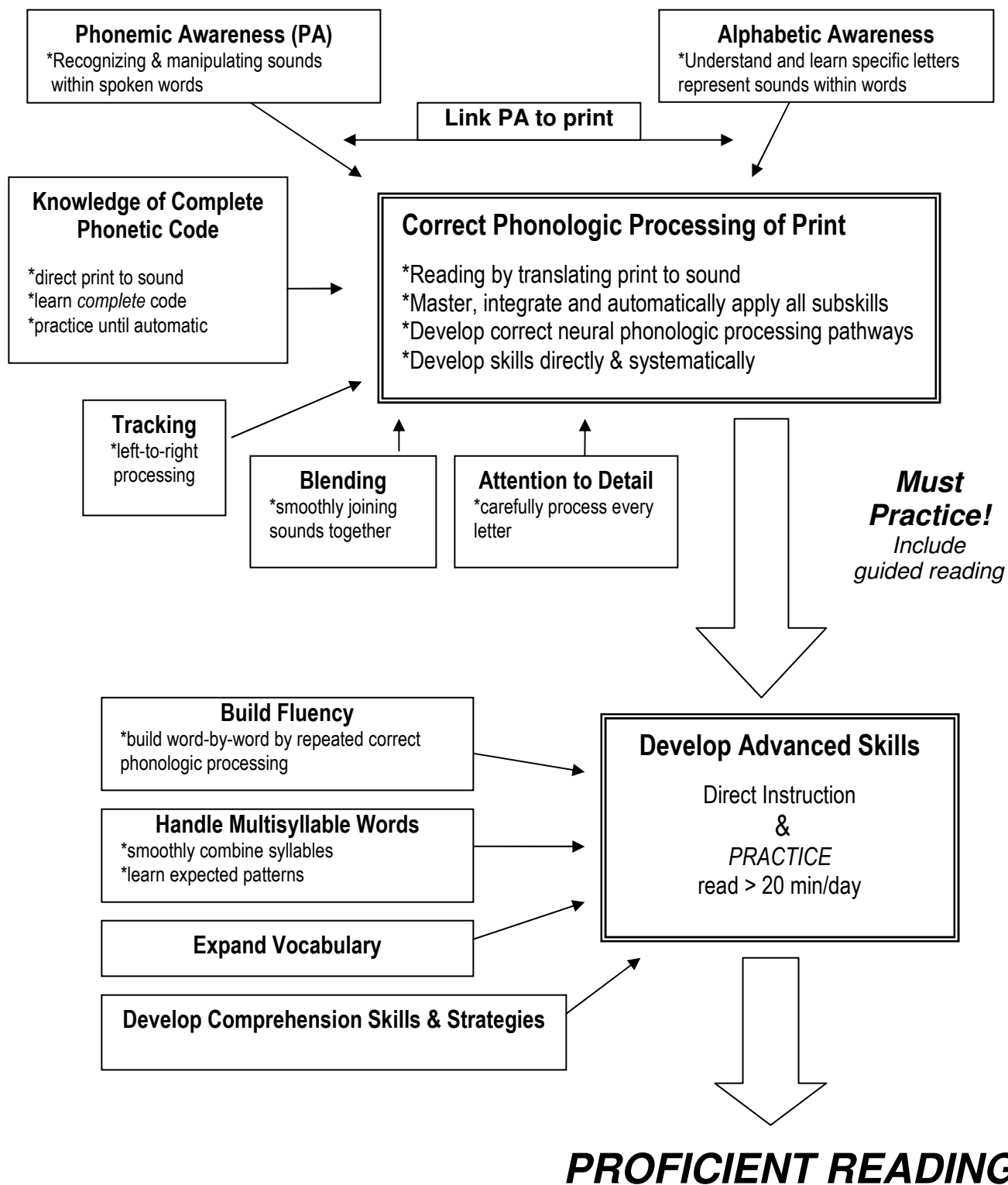
D. Summary of Skilled Reading

Skilled reading requires the mastery, integration, and application of numerous skills and knowledge. The child needs to establish the strong foundation of phonologic processing and then build advanced skills in fluency, handling multisyllable words, vocabulary and comprehension. An effective direct-systematic-phonics program explicitly teaches children to convert letters into sounds and blend the sounds into words to develop proficient phonologic processing of print. However, it does *not* constitute a complete curriculum or entire reading program. A direct-systematic-phonics program provides the essential foundation of accurate effortless decoding so the child can begin to achieve the higher goals of reading. In addition to requiring practice to build proficiency, a comprehensive reading program needs to include vocabulary, fluency, and comprehension development. Other essential language curriculum areas in spelling, grammar, creative and technical writing, exposure to literature, appreciation of writing, and ability to research and extract information from multiple sources are absolutely essential to education. The importance of these educational elements is *WHY* you must *first* get *all* children on the right track to reading proficiency. With the help of this effective direct, systematic phonic program, you can get your child on the right track to reading proficiency so he or she will be able to obtain the higher skills and greater objectives.

Figure 1 on the following page visually represents the necessary skills and integration of these skills in the process of proficient reading

² National Reading Panel's "Teaching Children to Read" Summary Report www.nationalreadingpanel.org/publications/summary.htm

Overall Processes Required for Proficient Reading (Figure 1)



For illustration purposes, this diagram simplifies the complex process of reading. Skills are not isolated tasks. The foundational skills must be mastered, integrated, applied and PRACTICED! The correct phonologic processing of print is an essential foundation. The advanced skills in fluency, multisyllable words, vocabulary, and comprehension are also critical to developing skilled proficient reading.