

Symptoms related to dyslexia:

Oral Language	Written Language	Other
<ul style="list-style-type: none"> <input type="checkbox"/> Delayed spoken language <input type="checkbox"/> Poor awareness of sounds in words: sound order, rhymes, or sequence of syllables (may or may not affect articulation) <input type="checkbox"/> Inability to produce rhyming words by elementary school age <input type="checkbox"/> Imprecise or incomplete interpretation of language that is heard <input type="checkbox"/> Word retrieval struggles <input type="checkbox"/> Difficulty fluently expressing thoughts orally, especially when language is requested on demand 	<ul style="list-style-type: none"> <input type="checkbox"/> Difficulty decoding words; identifying words in isolation or in content <input type="checkbox"/> Omission of word endings or small words when reading <input type="checkbox"/> Difficulty encoding words—spelling <input type="checkbox"/> Reversals and inversions of letters and numbers, e.g., <i>b/d, p/q, n/u, 2/5, 6/9</i> <input type="checkbox"/> Poor sequencing of numbers or letters, e.g., <i>sing/sign, left/felt, soiled/solid, 12/21</i> <input type="checkbox"/> Persistent difficulty with oral reading <input type="checkbox"/> Problems with reading comprehension, especially at higher levels <input type="checkbox"/> Difficulty with handwriting <input type="checkbox"/> Difficulty expressing thoughts in written form 	<ul style="list-style-type: none"> <input type="checkbox"/> Confusion about directions in space or time (<i>right/left, early/late, months/days, yesterday/tomorrow</i>) <input type="checkbox"/> Difficulty with calendar or clock concepts <input type="checkbox"/> Confusion regarding prepositions (<i>on/off, up/down, under/over</i>) <input type="checkbox"/> Difficulty with rote automatic recall (such as math facts) <input type="checkbox"/> Difficulty in math—often related to sequencing of steps, directionality, or to the language of mathematics <input type="checkbox"/> Excessive daydreaming or especially active imagination <input type="checkbox"/> Confusion about right- or left-handedness <input type="checkbox"/> Unusual difficulty learning a foreign language <input type="checkbox"/> Similar problems among relatives

It is important to remember that no single symptom characterizes dyslexia. A given individual will exhibit a cluster of symptoms, with each person's cluster differing from every other person's cluster.

Identifying and Diagnosing the Dysgraphic Student

Students who struggle to write begin to doubt their skills as a learner. They would benefit if their teachers and/or parents had greater understanding and ability to suspect dysgraphia from the students' sloppy and/or inconsistent writing.

To begin the diagnostic process, it is important to first determine if the writing problem is interfering with learning or the student's ability to demonstrate what he knows. If it is, then the following six areas can be used as guidelines to determine a dysgraphic pattern. Observations within all six areas are required to make a reliable diagnostic statement.

1. Clusters

Use the list of symptoms in the box on the right to identify clusters of symptoms. Look for a pattern. No single symptom indicates dysgraphia.

2. Feedback and anticipating

Observe the student's performance when copying and also when performing spontaneous writing. This is important because each type of writing is dependent upon a different mechanism. Copying requires frequent monitoring of a model, and is, therefore, dependent upon adequate visual feedback. Spontaneous writing requires recall of a motor pattern or engram, and, therefore, is dependent upon anticipating the information processed before the action begins. Many students with dysgraphia have problems with both mechanisms, although some may only struggle with the component involving anticipation.

3. Rhythm and timing

Observe the student's timing and fluency of hand movements. Timing affects the rhythm and flow of writing across the page. Problems with timing can be observed when a student has labored or jerky writing. Rapid, haphazard writing is often the result when a student gives up attempts at controlling movement. Students with timing difficulties struggle to follow a sequential, repetitive series of motor movements in a fluid manner.

4. Motor difficulties

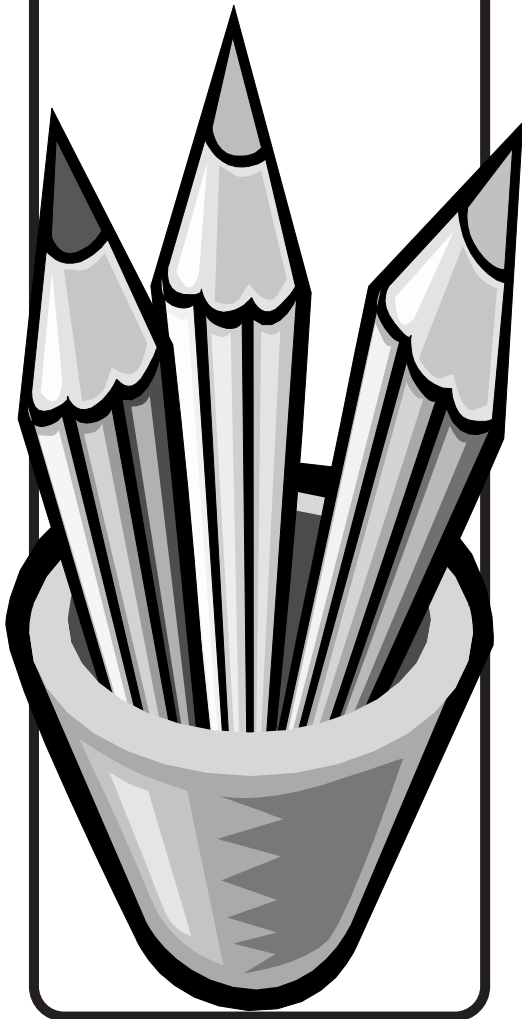
The inability to carry out a sequential motor movement to perform a motor task is often observed in students who

Specific Symptoms which may be noted include:

- Cramped fingers on writing tool
- Odd wrist, body, and paper positions
- Excessive erasures
- Mixture of upper- and lowercase letters
- Mixture of printed and cursive letters
- Inconsistent letter formations and slant
- Irregular letter sizes and shapes
- Unfinished cursive letters
- Misuse of line and margin
- Poor organization on the page
- Inefficient speed in copying
- Decreased speed of writing
- Excessive speed when writing
- General illegibility
- Inattentiveness about details when writing
- Frequent need for verbal cues and use of sub-vocalizing
- Heavy reliance on vision to monitor what the hand is doing during writing
- Slow implementation of verbal directions that involve sequencing and planning

Chapter 9

Reading and Spelling: Sound/Symbol Correspondence



Efficient and automatic sound/symbol correspondence is a vital aspect of the learning to read process. It is a critical part of an appropriately balanced approach, supported in many state frameworks. While phonics should not be the sole focus of teaching or result in an overemphasis on the development of skills in isolation, the critical value of phonics cannot be overlooked or left to implicit learning. This is true for all students, most especially the dyslexic learner.

To become skillful readers, children need to learn how to decode words instantly and effortlessly. Automaticity is a major goal. Initially, students must examine the letters and letter patterns of every new word while reading. It is poor practice to teach children to skip new words or to guess their meanings, especially at the beginning stages. Research reveals that only poor and disabled readers rely primarily on context for word identification. Poorly-developed knowledge of sound/symbol correspondences is the most frequent debilitating and pervasive cause of reading difficulty. (Stanovich 1980)

The most effective phonics instruction is **explicit** and **systematic**. (Reading Program Advisory 1996, 6) In **explicit** phonics, the key points and principles are clarified precisely for students. This differs from implicit phonics where these principles are casually mentioned or it is assumed the students will notice the relationship. Another important aspect of effective phonics instruction is that it is **systematic** phonics; it gradually builds from basic elements to more subtle and complex patterns. The purpose is to convey the logic of the system and to invite its extension to new words that children will encounter on their own. The end goal is independence in reading new and unusual words.

These needs as related to dyslexics were first substantiated by Samuel T. Orton, M.D., and Anna Gillingham, a psychologist, in their initial work on dyslexia in the 1920s, and subsequently in Gillingham's reading program. (Gillingham 1968) Teaching phonics opportunistically by pointing out sound/symbol connections only as they arise does not have the same impact on learning. (See Figure 9.1 on page 156.) While there are some

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students who will learn to read no matter what is done in the classroom, the dyslexic student or the student with other reading-based learning differences will not learn to read by teaching phonics opportunistically. This concept is critical for teachers to understand, as it can make the difference between a dyslexic student learning to read or continuing to struggle to read.

Building on their foundation of phonological awareness, students must understand how the alphabetical principle works, and they need to understand the concept and use of a code system. After this understanding is entrenched, it is relatively easy for the students to add new sound/symbol pairs to their working knowledge set. This is especially true for dyslexics and is the rationale for the systematic approach as initially represented by Gillingham. Beginning phonics instruction is best conducted with a relatively small set of consonants and short vowels, developing sound/symbol relationships progressively. By using a limited set of letters to build as many familiar and nonsense words as possible, students become more aware of the code system and learn to use phonics to read and spell logically.

The mnemonic system of sound/symbol correspondence described in this chapter is called *Memory Foundations for Reading* (MFR). This system helps students learn sound/symbol correspondence based upon the sequence presented in the Gillingham program. There is no magical reason for this sequence, and the sequence may be varied to coordinate with any reading program. What is important is to separate presentation of letters that are similar in visual configurations (such as *b* and *d*) and sounds that are similar and difficult to discriminate (such as short *e* and short *i*). One sound in the pair should be taught and developed to a level of automaticity before the second sound is introduced. Once the second sound is introduced, substantial discrimination practice needs to be included.

Figure 9.1—Orton & Gillingham: Initial pioneers in teaching reading to dyslexics

- Samuel Torrey Orton, the physician who was responsible for the recognition of dyslexia as a specific learning disability in the U.S., was first to consider that the disorder might have a neural substrate. (Chase 1996, 1) Dr. Orton stressed prognostic optimism as early as 1925. (Rawson 1995, 63)
- In the 1930s, Dr. Orton worked with Anna Gillingham, a psychologist, and Bessie Stillman, a master teacher, to develop the Orton/Gillingham Approach. (Rawson 1995, xiv)
- The Gillingham Manuals made available a systematic presentation of the structure of the English language. It described methodical procedures for teaching by the simultaneous use of the sense of sight, hearing, and muscular awareness. It was also adaptable in pace and detail to the individual needs and interests of the child, and to the ingenuity of the teacher who would use it as a base of operations to which other material could be added. It was an *approach*, not a *method* or a *system*. (Rawson 1995, 63)

Chapter 13: Written Expression

This is a good point in the process to work as a group and to pull in a large variety of strategies, using different modes, modalities, and multisensory activities. The variety helps stimulate interest and excitement in the task and leads to more creative brainstorming. When brainstorming occurs as a group process, the students' ideas feed upon and encourage each other. Use of visual organizers combined with the brainstorming process helps utilize the visual processing strengths of many of the students.

There are so many activities that can be used to stimulate brainstorming, as a teacher's creativity is boundless. Examples of just a few ideas that can be used follow:

- **Camera-head game:** Have students look at a portion of the room for 10 seconds, then close their eyes and recall all they can. They then open their eyes and notice what they missed. The process is repeated, helping the students understand that they are taking a picture with their mind and that they should focus on details.
- **Visualization:** Read the students a descriptive passage. Have them close their eyes and visualize as you are reading. Their visualizations can be guided with specific questions, such as "What color do you imagine the boy's shirt to be?" Afterwards, have them draw their visualizations, and then discuss the variations.
- **Storyboards:** Have students draw out or map out a sequence of events using successive squares on a piece of paper.
- **Pantomiming, charades, mimes:** Act out the information or story.
- **Describing wheel:** A describing wheel helps describe a subject or an object. The main topic is written in the middle of the wheel and words that describe the topic are written on the spokes. Encourage students to use the five senses in describing their topic. In the example of a dog in Figure 13.3, *bark* evokes the auditory sense; *licks*, *furry*, and *cuddly* suggest the tactile, kinesthetic sense; and *wags tail* encourages a visual image.

Figure 13.3—Describing wheel

