

Series: Powerful Best Reading Practices for Struggling Readers

Part 5: How to Reduce Visual Dyslexia

by Marie Carbo, Ed.D.

Imagine that you are a student with visual dyslexia. When you look at a printed page, the words and letters reverse, swirl, and double. You rub your eyes and try again, but the letters are still moving. It's your turn to read and you know that you will struggle through, making many mistakes. Perhaps worst of all, you think everyone in your class sees exactly what you see on the page, and you can't understand how they can read so easily—and you can't.

Color Can Help

Visual dyslexia is certainly not a new phenomenon. It's not a visual problem that can be helped with regular eyeglasses, and it affects people with a wide range of intellectual abilities, including those of great intelligence and talent. Most of us are familiar with the names of a few of the great and famous people who have had or have visual dyslexia, including Albert Einstein, Thomas Edison, Tom Cruise, Whoopi Goldberg, Robin Williams, George Washington, Cher, Pablo Picasso, Muhammad Ali, Walt Disney, and Danny Glover.

What is relatively new is the use of color—usually in the form of tinted eyeglasses and colored overlays—to reduce the symptoms of visual dyslexia. When the correct color is identified and used, many times the symptoms of visual dyslexia associated with reading can be reduced significantly. It's likely that some struggling readers have visual dyslexia that has gone unnoticed and untreated.

Seeing What the Student Sees

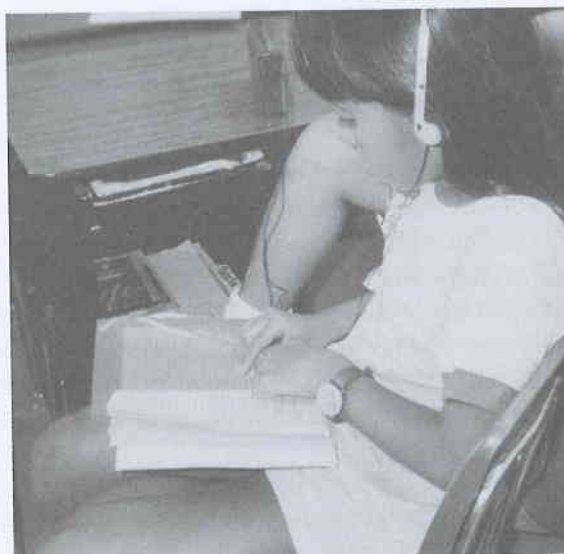
Particularly useful for educators are Dorothy Henson-Parker's manuals and training videos in her *See It Right!* program (Carbo, 2009; Henson-Parker, 2003a, b; Henson-Parker, 2005). Actual student breakthroughs occur on the DVDs, so that while viewers are learning how to assess and help visual dyslexics using color and other successful strategies, they also experience the surprise and joy the dyslexic youngsters feel as the letters and words on the page stop moving. That emotional connection between viewer and student is made even stronger when the trainer on the DVD takes a student's copying sample. The dramatic difference between the two samples (without and then with the use of a helpful colored

overlay) makes it clear what the student actually sees, and how the colored overlay improves the youngster's visual perception.

Importance of Taking Copying Samples

What I particularly like about Henson-Parker's work is its practicality. It's one thing to describe what visual dyslexics *seem to see*, but it's quite another *to show what they actually do see* by taking copying samples. The student copying samples in Figure 2 help teachers and parents to see and understand the impact of the visual distortions these children experience every day, as well as the help provided by an appropriate colored overlay. This is when we see how and to what degree a colored overlay corrects the letters and words for the student.

Figure 1 This fourth grader reads with ease with a turquoise-colored overlay.



Source: Photo courtesy of Robb Elementary School, Uvalde, TX

Figure 2 Vera's Copying Sample

ACTUAL TEXT The sun sank out of sight, the woods grew dark, and he did not come.

1. STUDENT COPIED WHILE LOOKING AT THE WHITE PAGE:

The sin san out of sight
 st her owoods grew dark
 nda ha bid not
 come.

2. STUDENT RECOPIED TEXT WITH PLASTIC FILTER OVER PAGE:

The sun sank out of sight,
 the woods grew dark, and he
 did not come.

Source: © D. Henson-Parker, 2005, www.seeitright.com.

This strategy enables educators, parents, and students to *actually see* the types of visual distortions that youngsters with serious visual perception problems experience, and how the use of color reduces those distortions.

How to Take a Copying Sample

After a color is identified that reduces or eliminates visual distortions for the student, the youngster is then asked to show exactly what he or she sees when looking at a page of print—first without color, and then with color. It's recommended that the student begin this process by copying one line of print from a page that does not have a colored overlay over it. The student is asked to write or "draw" exactly how the letters, words, and spaces look to him or her when seen on the white page. The student copies what he/she sees onto an unlined, plain white

sheet of paper. It is here that we can see the visual distortions that the student sees. Next, the student is asked to copy the same line of print with a helpful colored overlay placed over the page of print. Then the very same directions are given to the student. The differences between the two student samples are usually stark (see Figure 2).

Symptoms and Recommendations

The visual problems of students with visual dyslexia tend to cluster into the following two main categories: 1) incorrect visual input and 2) discomfort when looking at a page of print. This section is adapted from Henson-Parker's work.

Incorrect Visual Input

When a student has difficulty seeing the print on a page, it may be that he or she is receiving incorrect visual input. The student attempts to figure out what is on the page,

and then tries hard to read it. This process can take some time because often the words, as they are perceived by the student, don't make much sense. When students don't perceive the print correctly, they see a poor visual model, and their copying reflects what they see. Teachers and parents are outside of this process; all they see is the student struggling hard to create meaning from what he or she sees.

Discomfort When Looking at a Page of Print

Black letters on a white page can cause problems for youngsters with visual dyslexia, especially when viewed under a bright light. For the student, the page may appear too bright, which may cause discomfort. What the student experiences may be caused by the sharp contrast of the black letters on a white page. Or it may be that the moving and changing letters, words, and spaces are so difficult for visual dyslexics to look at that they rub their eyes, look away from the page, put their head down, or interrupt their focus on the page in some other way. Note: When they do this and then look back at the page, sometimes their eyes have had a rest and the print appears stable again.

Figure 3 (page 10) contains a listing of typical behaviors of students who are sensitive to light. When many of these symptoms are observed in a student about 6 years of age or older, classroom interventions can be tried (see Figure 4, page 11). If these interventions are not successful, the possibility that the youngster has visual dyslexia needs careful consideration. As a first step, of course, the student should be referred to the school nurse for both near- and far-point visual acuity screening, and referred further to a medical vision professional, if indicated.

Visual Dyslexia vs. Auditory Dyslexia

There are two distinct types of dyslexia: visual dyslexia and auditory dyslexia. Most people assume that the term “dyslexia” always means visual dyslexia, but it does not. It’s particularly important when conducting or evaluating research to know which

type of dyslexia is being discussed. Auditory dyslexics have auditory perception problems that can manifest as: difficulty in recalling and/or associating letters with their sounds; distinguishing between and among similar sounds; recalling and blending sounds to form words; and recalling what they

hear. On the other hand, visual dyslexics look at a page of print and may see letters, numbers, lines of print, and/or words reverse, double, shake, move up and down or sideways, slide off the page, or appear and disappear. Perception problems occur on a continuum from slight to severe. Some students

Figure 3 Symptoms of Visual Perception Problems

Reading	<ul style="list-style-type: none"> • Slow, hesitant oral reading. • Difficulty keeping place. • Appears to read words backwards or out of order. • Reads the same word twice or skips a word. • Difficulty answering comprehension questions.
Spelling	<ul style="list-style-type: none"> • Reverses sequence of letters. • Leaves letters out when copying words on a list. • Spells words <i>almost</i> right. Similar letter substitutions.
Math	<ul style="list-style-type: none"> • Inaccuracies in computation. • Backwards numbers. • Crooked columns of numbers. • Numbers that don’t look grouped when they’re supposed to be grouped.
Written Work	<ul style="list-style-type: none"> • Work completed very slowly. • Too much, too little, irregular and/or no space between letters and/or words; uneven margins. • Writing is above or below the line or appears wavy. • Skips lines, leaves out letters or words. • Reversals.
Behavior	<ul style="list-style-type: none"> • Appears distracted. Only reads or attends to paper-and-pencil tasks for a short time before losing attention. • Difficulty keeping eyes on the page when trying to read. • Squints, blinks a lot, rubs eyes, shakes head. • Complains of eye pain and/or headaches. • Shades eyes and/or book in some way.

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have both auditory and visual perception problems, some severe enough to classify them as dyslexic in both areas. These youngsters find it very difficult to learn how to read. To prevent failure, these students need IEP's that take into

account their weaknesses and strengths, and that recommend the most appropriate reading strategies. Note: The Reading Style Inventory® provides this type of information (see nrsl.com).

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Figure 4 Accommodating Students with Visual Perception Problems in the Classroom

Classroom Lighting

- **Reduce light:** Change the student's seat to a darker area of the room, facing away from windows. Allow caps or visors to cut glare.
- **Reduce general lighting:** Turn off half the lights (especially fluorescents); shut lights during periods of bright natural light or close window coverings; add lamps to areas of the room.

Distance Viewing

- **Use darker-colored markers on white boards:** Light colors are difficult to see and may appear as blank spots (no yellow or other pastels). Write with clear, large print so the writing is easily seen, and reduce or lessen glare, if possible.
- **Make copies of board work on colored paper:** Use the color that helps the student.

Use Colored Paper

- **Create journals on pastel-colored paper:** The 8 ½ x 14 size folded works well. For those who need it, make lines darker than the faint blue lines in most journals.
- **Duplicate assignments on colored paper:** The color should help the student to feel a greater degree of comfort and increase print clarity.

Clarity of Reading Materials

- **Provide clear copies:** Copies should be printed in ink dark enough to be seen easily.
- **Use an easy-to-read typeface for classroom assignments:** Extra lines/serifs can move and be confusing.
- **Provide a printed spelling or vocabulary list:** A light-sensitive student may copy words incorrectly and then study those words.
- **Allow students to place their books in positions that reduce glare:** Book stands may help.
- **Enlarge the print of the work given to students:** The larger the letters and the more space between the letters, the less distortions tend to occur.
- **Use small magnifying bars to more easily enlarge print.**

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Reduce Visual Dyslexia

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Conclusion

Research does indicate that both visual acuity and reading achievement are improved with the use of colored filters for students with visual perception problems (Adler & Atwood, 1987; Henson-Parker, 1997; O'Connor, Sofo, Kendall, & Olsen, 1990; Robinson

& Conway, 1990). Visual dyslexia is a complex problem. The use of colored overlays and tinted eyeglasses has helped some students to see print more accurately. When an overlay helps, the improvement is instantaneous. Henson-Parker's copying samples make this improvement very clear. More

research needs to be conducted, especially involving students' copying samples. Researchers can use this technique to identify the kinds of problems being experienced by subjects in a study.

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