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Visual Processing Disorder: How Does It Affect Learning?

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In most public schools throughout the United States, children in kindergarten and first grade participate in a simple vision screening with the school nurse that measures their visual acuity (sharpness of vision) from 20 feet. The child stands in front of a letter/picture-symbol chart, covers each eye one at a time, and recites what he or she can see. If the child fails the screening, or the results are questionable, parents receive a letter from the school nurse prompting a visit to an eye doctor for a more comprehensive exam. After first grade, these screenings may occur every other year through middle school, according to your state's mandate. Good vision, especially for children just beginning school, encompasses so much more than visual acuity.



When children begin school, they must have crisp, sharp eyesight, but they must also be able to:



- Demonstrate a variety of cognitive visual perceptual skills (see the next page).



- Coordinate their eye movements (together as a team).



- Follow a line of print without losing their place.



- Maintain a clear focus while reading.



- Make quick focusing changes (look up to the board, back to their desk, back to a book, and then interpret and process the information).

If a child has inadequate visual skills in any of these areas, he or she is almost certain to experience some difficulty in school, especially in reading.

Children in the United States begin school at age 5. This is the age at which their eyes are mature enough to successfully engage in learning activities. If a child has difficulty remaining focused during the early grades, the first place to look may be visual immaturity. When children pass a vision screening administered at school, parents are less likely to consider vision as a contributing factor to any learning problems. As a result, many children with visual problems may go untreated for a very long time. Many factors define good vision, any of which can attribute to a child's difficulty processing visual information. A child can have difficulty with one or more of these factors even with sharp visual acuity.

Eye Teaming

Many children experience difficulties with "eye teaming." Eye teaming allows both eyes to work together to process information. Problems with eye teaming cause extra strain on the eyes, making it harder for a child to read, write, or perform other visual tasks.

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A child experiencing eye teaming problems is only able to focus on visual tasks for short periods of time. Eye teaming problems may also include: headaches, blurred or double vision; difficulty concentrating; and closing or covering one eye while reading. Eyeglasses made with prisms and/or eye exercises for vision therapy may help with some eye teaming problems.

Besides eye teaming, other major areas of visual processing and perception include:



Visual Discrimination – Using sight to compare and contrast features of different items and distinguish one item from another (letters, shapes, objects, colors, and patterns).



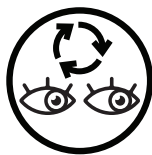
Visual Figure-Ground – Distinguishing shapes or printed characters from their background (finding specific information on a page of words and/or numbers; being able to see images within a competing background).



Visual Sequencing – Seeing and/or distinguishing an order of symbols, words, or images (trouble using an answer sheet; staying in the right place when reading; reversing letters, numbers, or words; and understanding the process of solving math equations).



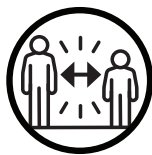
Visual Motor Processing – Using feedback from the eyes to coordinate movement of other parts of the body (writing on/within the lines, copying from the board or a book, moving around without bumping into things, participating in sports that require well-timed and precise movements in space).



Visual Memory – Recalling something seen recently or sometime ago (word spellings, reading comprehension, phone numbers, and using a keyboard and/or calculator with speed and accuracy).



Visual Closure – Knowing what something is when only parts of it are visible (recognizing objects from partial images, identifying words with missing letters, identifying faces when one feature is missing).



Visual-Spatial Awareness – Understanding an object's position in space as it relates to oneself (understanding near/far; and understanding the relationship of objects and characters described on paper or in a spoken narrative).



Form Constancy – The ability to recognize that an image, form, or letter stays the same even if it changes position, shape, or location/environment.



Visualization – The ability to create a mental picture of objects, concepts, words, events, letters, etc. based on one's past experiences. Also, the ability to imagine what something could look like based on a description or creative process.



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Children usually create visual strategies that work best for them. Teachers and parents may stress and fret over how to help a child, but always consult the child first. The child knows best how to modify a situation. For example, offer the child two sizes of print; ask which he or she prefers. Paper color plays a role in visual discrimination, so ask on which color paper he/she prefers to work. Take note of the way your child positions a book for reading and leave it that way. Adults can help children best by providing the supplies they need to do their work. Knowing exactly what the visual problem is will help parents or teachers come up with intervention strategies to help the child be successful.

Here are more strategies to help children with a visual processing disorder at home and in school.



- Never allow a child to become overly fatigued from visual tasks. Fatigue brings about oppositional behavior and may further damage an already immature visual system.



- Observe how long the child can remain focused (2-15 minutes) and break down school assignments or activities into smaller chunks that he or she can accomplish during that time.



- Have the child take breaks for physical activity (walking around the room, going to the pencil sharpener, or jumping rope). Physical activity jumpstarts the nervous system and allows the child to concentrate for another short period of time. (Ever wonder why students sharpen their pencils so much? They are giving themselves a time out from a visual task!)



- Plan activities during breaks that emphasize their area of strength (a game, art project, playing an instrument). Every child has something that he or she does well.



- Keep visual tasks to a minimum by letting them listen to book recordings.

Effective visual processing strategies and modifications for a child to use at home and in the classroom must accommodate his or her specific needs. No two children share the same strengths or weaknesses, nor will both benefit from using the same strategy. In order to find visual processing interventions that work, parents and teachers must test them by trial and error and evaluate their effectiveness. The design of strategies and interventions is a dynamic and ever-changing process.



Resources:

Seeing Smarter™. *Eyeteaming problems*. Retrieved September 2012. http://www.seeing smarter.com/What_Are_Eye_Teaming_Problems.html

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