



Julia Volkman

ADHD and the eyes

Every fall we look for them. They arrive in our room and ping-pong around it. They touch everything but "do" nothing. They report on what everyone else in the classroom is doing but don't seem to be able to repeat a single presentation in a way that maybe, kind of, sort of resembles the original presentation. In our school we call these little ones firecrackers. They are full of energy, light up the room, and make themselves heard. Well, those are kind of desirable characteristics, aren't they? But these little guys can also be explosive ... and exhausting.

Some of these children will settle as they mature but others won't. They seem easily bored and constantly seek new input. The good news is that these very characteristics are the same ones found in many extraordinary humans. These are people who, as adults, stick with the questions that have no easy answers. They are interested in solving very difficult theoretical puzzles. The solutions to those questions can change the world. If we're very lucky, we can guide them to the topics that intrigue them and, thus, ignite that spark of intellectual exploration that can propel their academic life.

The other interesting news is that many of these children may not actually have ADHD. Instead, they may have an eye condition known as convergence insufficiency (CI). CI is a subtle disorientation of the eyes that tends to prefer information from the periphery rather than the focal point. For example, when focusing on one thing, the eyes are easily pulled away to focus in on something noticed in the peripheral visual field. This effect is exaggerated when focusing on something close to the face. If you're able to observe it, it might resemble a lazy eye. The dominant eye remains fixed while the weaker eye moves towards the periphery but it only happens when the child focuses on something inches away.

So imagine that your eyes work this way. You're looking at something and then suddenly you see double images or competing images that the brain isn't quite mature enough to interpret. So, which image do you try to focus on? Good question. You might try moving your head to bring things back into focus. Or you might choose the new visual target instead of the original one and turn your head to look at it. And then, it happens all over again with the next nearby thing you look at. Just thinking about it makes me dizzy.

So if this happened to you, would you want it to keep happening? Of course not. Neither do children with CI so they avoid anything that might make it happen. And what might make it happen? Well, ah, how about trying to focus on the work in front of you?

Distraction, avoiding work, resistance to near work, excessive movement/not sitting still ... you can see why CI is often misdiagnosed as ADHD!

Now maybe you've never had a child in YOUR room who avoids work, but you might notice it when you go observe in someone else's room. Inevitably, we start giving these children assignments. They have work lists. We check in with them constantly to redirect them and make sure they are "on task." We hear ourselves saying things like "eyes to yourself" and "look at your work." Their parents may even ask us to track their behavior with a sticker chart. In short,

these children get regularly interrupted and simultaneously lose the freedom to choose their work. Well, how the heck do they develop their powers of concentration in that kind of environment? We end up reinforcing the very problem we are trying to address—inattention.

Now, protecting concentration is the cornerstone of our work. Children are not free to disturb the work of others and we must be vigilant in protecting the rest of the classroom from disruption. So what are we to do with these children?

Well, first we can look to see if there is any reason to suspect CI. We do just what Maria taught us to do: Observe and make use of the innate diagnostic ability of the materials. You are looking to see if one eye slips to the outside when the child is trying to focus on something close to his face. There are natural opportunities to observe this with the materials. For example, when we align the board stairs or knobless cylinders, we place our head down right next to the work and examine it from all angles. Watch the child's eyes when he does this. Does he lay his head as close as you do or does he back off? Does he balk at moving the smelling jars close to his nose? Is she exceptionally agitated or reactive when another child gets too close, for example, pushing or hitting children when in line? Can she walk on the line or does she ricochet around it?

You can also try a little test. Take the third cube from the pink tower and hold it at arm's length from the child. Say, "Keep your eyes on this cube. I'm going to see how close I can get without touching you." Then very slowly move the cube in towards his eyes. Normally, the eyes will cross slightly to maintain their focus and will hold this position even when you are an inch away from the eyes. In CI, you might see one eye maintaining focus and the other eye slipping out. Or, at the moment before the slip would happen, the child stops looking at the cube. If you repeat the test, the child will likely resist or, again, stop focusing as it gets near.

If you think the eyes might be involved, call a conference and tell the parents what you observed. Clarify that you're not trained to diagnose anything but you want to make sure that their child's challenging behaviors are not caused by a correctable eye condition. If they would like more information, you can recommend www.convergenceinsufficiency.org. Then, suggest they have their child seen by someone who is qualified to diagnose CI, usually that means a developmental optometrist. (Curiously, ophthalmologists don't always recognize it.)

If it is CI, the child will likely begin vision therapy—the eye-version of weight lifting. Vision therapy involves children spending 20-30 minutes each day doing eye exercises both with and without an eye patch. This helps retrain their ocular muscles and their brain so that the eye movements become coordinated. And, miraculously, as those neural pathways get stronger, their distracted, resistant, avoidant behavior begins to wane. Vision therapy is hard work for the young child and yet they usually don't resist it. Instead, they are relieved. Finally someone has seen from the outside what they've been unable to articulate or make sense of.

To support a child with CI in the classroom, you need to remove distractions from the peripheral visual field. Here are some

suggestions:

- Make sure you have a work area available in a corner or other secluded location that is free from peripheral visual distractions.
- Remove all objects from the walls that are above the child's eye level. Allow a great deal of empty space around wall hangings. Be very selective about what you put on the walls. Instead of overcrowding the walls with art or posters, choose just a few items and change them regularly.
- Turn off the fluorescent lights and use incandescent lighting.
- Remove, cover (with unpatterned cloths), or store anything in the room that is not meant for the children's use ... that means teacher supplies, your stack of papers, the books you're meaning to sort through, the materials that need repair, etc.
- Consider adding an eye patch to your shelves. Present its use just as you would a blindfold. Then watch to see who else uses it after the initial novelty wears off ... and have a good look at his eyes!

You also want to focus on the key lessons that support concentration in all children.

- Be tireless in presenting grace & courtesy lessons on how and when to interrupt someone, how to wait for a turn, and how to respect someone's work. And then be sure that you and your teaching partner follow those same procedures!
- Be vigilant in enforcing the child's right to own his work. Be clear that whoever takes it from the shelf is responsible for it until it is back on the

shelf, ready for the next child to use. Do not allow other children to step in and "take over" a work. Do not enlist other children to clean up someone else's work. This is entirely different from inviting and welcoming the help of others, which is of course encouraged!

- Wait for it: if the child doesn't finish a work during the work cycle, let them restart at the same point during the next work cycle. If the cleaners are coming and you can't leave the work out, set it aside after the child leaves and set it back up in the same state (of disarray or beauty) before he arrives the next day. Of course if it is in disarray, help the child get it into order.

Somehow, in the midst of the firecrackers popping off all around us, we have to keep our own vision clear. Actually, we have to see without our eyes at all, beyond the exhausting level of energy and attention some children require of us. We have to see inside the child, past the distractions, to the dormant lamp of human potential. And then, we find a way to turn up that little dimmer switch so the child's light can shine. Exhale and back in that.

Julia Volkman is the mother of a teenager and a 6-year-old, a Montessori Mentor at an urban public Montessori School, a master's candidate in psychology at Harvard University, an Advisory Panel Member for the Annenberg Foundation's Neuroscience in the Classroom course, and the founder of Multi Learning (www.multilearning.com).

Vincent and Volkman on eye patches

As you may know, I have been an advocate of developmental and behavioral vision therapy for nearly 30 years, so Julia Volkman's article was eye opening. Her suggestion to look to vision is frequently undervalued. However, the part below quoted from her article could potentially create a problem if a teacher or any untrained person would use it for any period of time.

Consider adding an eye patch to your shelves. Present its use just as you would a blindfold. Then watch to see who else uses it after the initial novelty wears off ... and have a good look at his eyes!

This is a case where a little information in the wrong hands could be detrimental. Eye patches are used in therapy, and it is certainly possible to use it incorrectly. I was advised by the Kansas President of Developmental Optometry to only "use a blindfold or nothing, but never patch just one eye." It could further weaken the weak eye, and I really don't understand what an untrained person could see by doing it anyway.

Further reading can be found at the OEP site:

<http://oepf.org/Patients&Parents/Home.php>

I hope the article causes some to consider eye function along with eyesight as a potential solution for students who have difficulty in school.

Frank Vincent
Principal
Gilpin Montessori Public School

Julia Volkman responds:

Mr. Vincent raises good points and I'm grateful for the opportunity to clarify. Also, the website he refers to is a veritable treasure trove of useful information.

I agree with Mr. Vincent that, contrary to its reguish history, an eye patch should not be used cavalierly and teachers should not be making diagnoses. If a teacher did present the use of an eye patch to a child, it should absolutely be used on each eye in turn. However, I would be hard pressed to imagine that its use for a minute or two in the precise context of the Montessori sensorial materials could in anyway lead to a weakening of the eye. If so, certainly eye patches should be removed from the shelves of toy stores and children should be forbidden from playing pirate.

In our theory lectures, we were taught the specific characteristics that make an

educational material, particularly the sensorial materials, pedagogically sound. One of those characteristics is that they have diagnostic value. Another is that they isolate a stimulus. I suggest that an eye patch, if used on both eyes in turn in the same manner that we use a blindfold with a sensorial material, MAY meet both of those criteria. However, this is a theory and, like all theories, requires testing. I believe Montessorians are the perfect ones to undertake such a study. If you are such a scientifically minded Montessorian with such an interest, please contact me (jvolkman@fas.harvard.edu).

Most likely, none of the Montessori educators reading this have received the specialized training necessary to diagnose any eye condition, let alone a subtle one such as convergence insufficiency. Similarly, we are not trained in diagnosing ADHD or autism spectrum disorders or learning disabilities. And yet, we are regularly relied upon as the starting point for the evaluations, which lead to such diagnoses. Further, we adapt our classroom environments to meet the unique needs of children with these diagnoses. Again and again we witness that we are able to do this well. Children with

atypical development are well served in and important contributors to well-run Montessori environments. That is because we are trained in scientific observation, preparing an environment with pedagogically sound materials, and presenting intelligent ways of using those materials.

Mr. Vincent also brings up the question of what we might expect to observe if we were to introduce an eye patch to our environments. I believe the most important thing we might see is that some children would be drawn to use the eye patch. Montessorians know that the child has an inner guide that leads him to exactly what he needs. Like a flashlight in a dark room, the child sees only that which is vital to his development at that moment. If we witness an easily distracted, restless child regularly using the eye patch, it should raise the possibility of convergence insufficiency just as seeing a child with speech delays who is unable to match the sound cylinders raises the possibility of compromised hearing. We don't diagnose anything. We simply take notes and report what we've observed. We say, "I wonder if there isn't something going on with his eyes." And then, we fade and observe while the family takes the lead.