

# Writing Wrongs: Treating Graphomotor Problems

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VANCOUVER, B.C. — Graphomotor dysfunction—a disconnect between a child's thoughts and his or her ability to write them down—is becoming increasingly common in elementary school children, Dr. Melvin D. Levine said at a conference sponsored by the North Pacific Pediatric Society.

"We're seeing an epidemic of little boys with graphomotor dysfunction," asserted Dr. Levine, who is the cofounder of All Kinds of Minds, an institute for the study of learning differences, and professor of pediatrics at the University of North Carolina, Chapel Hill.

Years ago, when Dr. Levine visited a school, he expected to find one or two children with graphomotor problems. But now the proportion of students who experience the dysfunction "may be as high as 25% of boys in some classes," although girls can show it too, he said.

Some people believe video games may be driving the increase in graphomotor



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DR. LEVINE

problems because they require visual feedback in a way that writing doesn't.

Although he isn't certain of the cause or why little boys seem overrepresented, Dr. Levine is sure of the need for pediatricians to recognize graphomotor problems within the context of a child's neurologic development and school performance and to intervene with school districts when necessary.

He explained that graphomotor function is not the same as fine motor function. "It requires totally different software," said Dr. Levine. This difference explains why a child may have illegible handwriting despite being the best artist in the class.

Graphomotor skills required to write include previsualization (picturing a letter or number symbol before creating it); memory (recalling letter and number forms quickly and accurately); production (possessing the many motor skills required to form the letters and numbers on the page with one's fingers); and feedback (knowing where the pencil is during writing without actually having to look at it).

Watching a child write and looking at his or her writing can be helpful in identifying areas of difficulty. A child who holds a pen with a death grip, perhaps at an awkward angle, may be trying to compensate for graphomotor production deficits.

A bright and verbal child who fails writing assignments may have an "output" problem with graphomotor memory. The ideas are flowing in his or her mind faster than they can be put onto paper in an orderly way.

"When you talk, you don't have to punc-

uate, capitalize, and spell," said Dr. Levine.

Many steps can be taken to help children with graphomotor dysfunction, but solutions begin with a careful diagnosis and a "demystifying" of the problem.

For these children, "writing can be so humiliating ... that their natural response is defiant refusal," said Dr. Levine.

Once the children know which elements of the writing task are causing them problems, they can work around these problems, rely on their writing strengths, and

recapture their self-esteem. But for school success, accommodation also makes sense.

A child who has tremendous difficulty with cursive writing should be allowed to print forever, he said.

Likewise, a child who does better with the flow of cursive writing should be able to use that method.

Smooth-flowing writing implements may help. Ballpoint pens are not recommended because they do not create enough friction on the page to provide

feedback to the child with graphomotor difficulties. Many children with graphomotor problems do much better keyboarding, and they should be allowed to take notes on a laptop computer in class.

Tape recorders can be substituted for note-taking.

Dr. Levine opposes timed exercises or tests for most children, but especially for those with graphomotor problems.

"At the very least, let's not hurt anyone with public humiliation," he said. ■

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