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The Importance of Handwriting in the Digital Age

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Improving children's penmanship, legibility, pencil grasp, and working on problem areas are all important things that need to be addressed—especially in the digital age when most of our written communication is done through texting on mobile devices or typing on a keyboard. Voice recognition software has even evolved to the point that commands can now be verbal—making even keystrokes obsolete!

So, are handwriting skills critical to your child's success? What's lost as tech-savvy young children learn to tap, swipe and touch screens before they have even learned to pick up a pencil or tie their shoelaces?

While the American Academy of Pediatrics (AAP) does not currently have a policy on handwriting, here's what we do know based on the published research available:

- Visual-motor skills, such as eye-hand coordination, are associated with academic achievement. Scientists have found that developing fine motor skills in early childhood can predict not only writing success, but better performance in reading and math in elementary school. One study (https://www.ncbi.nlm.nih.gov/pubmed/22026324) even showed how the *Handwriting Without Tears- Get Set for School®* (HWT-GSS) program improved fine motor and "pre-writing" skills of Head Start students.

- Children who can write quickly and legibly are more likely to demonstrate skills in expressing their thoughts through the written word. When kids struggle to write neatly and efficiently, they are often accused of being lazy, and this may affect their behavior and self-esteem.

- A study (http://www.ncbi.nlm.nih.gov/pubmed/16390289) that followed children in grades two through five, demonstrated that printing, cursive writing, and typing on a keyboard are all associated with distinct and separate brain patterns—and each result in a distinct end product. For example, when these children were asked to come up with ideas for a composition, the ones with better handwriting showed greater neural activation in areas associated with working memory—and increased overall activation in the reading and writing networks.

- A Pew Research survey (http://www.pewinternet.org/Reports/2013/Teachers-technology-and-writing/Summary-of-Findings.aspx) of teachers around the country found that today's digital technologies make middle and high school students more likely to use informal language in formal papers and plagiarize. In high school years, kids who struggle with handwriting may also suffer even more as they struggle to keep up with the volume of written work required.

- A 2012 review (http://www.intechopen.com/books/dyslexia-a-comprehensive-and-international-approach/the-contribution-of-handwriting-and-spelling-remediation-to-overcoming-dyslexia) suggests that cursive may be particularly effective for individuals with developmental dysgraphia (/English/health-issues/conditions/learning-disabilities/Pages/Types-of-Learning-Problems.aspx) (motor-control difficulties in forming letters) and that it may aid in preventing the reversal and inversion of letters.

What Parents and Teachers Can Do:

The first attempts at writing can be challenging for young children—whose necessary fine motor skills are not yet fully developed. But, some skills critical for school-readiness are simple to build at home and in preschool. The handwriting practice young children get as they learn and grow can help improve their fine motor abilities and visual-performance.

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- **Allow for scribble time.** Provide lots of opportunities to trace and draw shapes and simple drawings in early childhood BEFORE letters are introduced. Even making the simplest marks requires that a child's brain, nerve cells, and muscles work together to produce the building blocks of legible writing: recognition of shapes and letters, moving in a sequence and direction on a page, and copying shapes such as vertical and horizontal lines, circles and crosses.
- **Color in the lines**. Throw in some special projects that require slow, controlled movements. For example, squeeze glitter glue over a line, fill in shapes with paint or use small, circular strokes to color an image.
- **Tracing tactics**. Let your child trace over your shapes in sand, or with chalk on a board before trying to draw the shapes on their own. Older kids can benefit from grid drawings to strengthen their visual motor skills.
- **Work that core!** Exercise the core muscles and shoulder muscles so that the hands and fingers will be able to move more freely and accurately. Climbing on playgrounds, for example, gives these muscles a good workout. Good posture is important when working on writing.
- **Hand-eye coordination**. Help your child develop this skill with lots of gross motor hand-eye exercises. For example, play bean bag games, ball tossing games, and bat and ball games as much as possible. You can also look for worksheets and activity books that have mazes and follow-the-path pictures.
- **Monitor media use time**. Educators continue to encourage a balance between media use time and the 3-D world. Encourage your child to spend less time on electronic devices and more time on gross motor and fine motor activities to build these skills. Computer games do not help develop the in-hand manipulation and finger skills that are needed for handwriting. *See Why to Limit Your Child's Media Use* (/English/family-life/Media/Pages/The-Benefits-of-Limiting-TV.aspx) *for more information.*

The Cursive Debate:

Cursive writing lessons *used to be* standard curricula in elementary schools across the US. Now many schools have cut cursive teaching to 15 minutes or replaced it with other priorities in the curricula. The Common Core standards call for teaching legible writing, but only in kindergarten and first grade. After that, the emphasis quickly shifts to proficiency on the keyboard.

Today, not only are many students unable to read or write in cursive, many teachers are not adequately trained in its instruction.

What We Know that Works:

Let's face it—technology is bound to continue developing and more research is needed to identify the best ways to teach handwriting to young children. But, there is certainly plenty of evidence that talking to your young children, reading to them, playing with them, and co-viewing and co-using digital media with them (in moderation) provides a jump start in developing the thinking, moving, talking, writing, and reading skills needed for a healthy and successful journey in school.

Additional Information & Resources:

- Using Their Words: Helping Preschoolers Get a Good Start in Reading and Learning (/English/ages-stages/preschool/Pages/Using-Their-Words.aspx)
- How to Reinforce Your Child's Learning (/English/ages-stages/gradeschool/school/Pages/How-to-Reinforce-Your-Childs-Learning.aspx)
- Why Quality Matters in Early Child Care: AAP Policy Explained (/English/family-life/work-play/Pages/Why-Quality-Matters-in-Early-Child-Care.aspx)
- Learning Disabilities: What Parents Need to Know (/English/health-issues/conditions/learning-disabilities/Pages/Learning-Disabilities-What-Parents-Need-To-Know.aspx)
- Ten Tips for Your Child's Success in School (/English/ages-stages/gradeschool/school/pages/Ten-Tips-for-Your-Childs-Success-in-School.aspx)
- Kids & Tech: Tips for Parents in the Digital Age (/English/family-life/Media/Pages/Tips-for-Parents-Digital-Age.aspx)

ıe Pediatrician's Role in Optimizing School Readiness
ıttp://pediatrics.aappublications.org/cgi/doi/10.1542/peds.2016-2293) (AAP Policy Statement)

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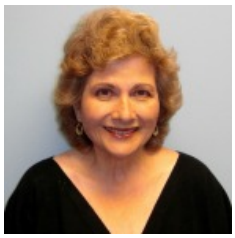
About Dr. Reid Chassiakos:



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