

Directions: (Check off when done)

- ☐ Demonstrate evidence of close reading through a minimum of ten annotations.
- ☐ **Highlight** and **define** at least five confusing terms as you read.
- ☐ Complete the 4 step Précis on loose-leaf paper with a proper heading.
- ☐ Write a reaction that is no less than 80 words on loose-leaf paper with a proper heading.
- ☐ Staple this article to the back.

# How Writing by Hand Makes Kids Smarter

October 6, 2010

## **Younger Americans are typing or texting more and writing less, even in school — and that's a problem when it comes to brain development**

With the ubiquity of keyboards large and small, neither children nor adults need to write much of anything by hand. That's a big problem, [says Gwendolyn Bounds in \*The Wall Street Journal\*](#). Study after study suggests that handwriting is important for brain development and cognition — helping kids hone fine motor skills and learn to express and generate ideas. Yet the time devoted to teaching penmanship in most grade schools has shrunk to just one hour a week. Is it time to break out the legal pad? Here's a look at how the brain and penmanship interact:

### **Writing by hand can get ideas out faster**

University of Wisconsin psychologist Virginia Berninger tested students in grades 2, 4, and 6, and found that they not only wrote faster by hand than by keyboard — but also generated more ideas when composing essays in longhand. In other research, Berninger shows that the sequential finger movements required to write by hand activate brain regions involved with thought, language, and short-term memory.

### **Writing increases neural activity**

A recent Indiana University study had one group of children practice printing letters by hand while a second group just looked at examples of A's, B's, and C's. Then, both groups of kids entered a functional MRI (disguised as a "spaceship") that scanned their brains as the researchers showed them letters. The neural activity in the first group was far more advanced and "adult-like," researchers found.

### **Good handwriting makes you seem smarter**

Handwriting also affects other people's perceptions of adults and children. Several studies have shown that the same mediocre essay will score much higher if written with good penmanship and much lower if written out in poor handwriting, says Vanderbilt University education professor Steve Graham.

"There is a reader effect that is insidious," he says. "People judge the quality of your ideas based on your handwriting." And the consequences are real: On standardized tests with handwritten sections, like the SAT, an essay deemed illegible gets a big zero.

### **This isn't only an English-language phenomenon**

Chinese and Japanese youths are suffering from "character amnesia," [says AFP's Judith Evans](#). They can't remember how to create letters, thanks to computers and text messaging. In China, the problem is so prevalent, there's a word for it: "Tibiwangzi", or "take pen, forget character." "It's like you're forgetting your culture," says Zeng Ming, 22. So closely are Chinese writing and reading linked in the brain, says Hong Kong University linguist Siok Wai Ting, that China's reading ability as a nation could suffer.

### **New technology is part of the solution**

New touch-screen phones and tablets, like the iPhone and iPad, are providing a countervailing force, translating handwriting into digital letter forms or making writing practice fun (a \$1.99 iPhone app called "abc PocketPhonics" rewards kids with ["cheering pencils"](#)). In Japan, an iPhone game called kanji kentei — a character quiz with 12 levels — has [become a hit](#) with all age groups.

### **Science may just be catching up with common sense**

[Heather Horn in \*The Atlantic Wire\*](#) says that while all this research is fascinating, it mostly shows that "scientists are finally beginning to explore what writers have long suspected." She notes a [1985 article in the \*Paris Review\*](#) in which the interviewer asks novelist Robert Stone if he mostly types his manuscripts. His reply: "Yes, until something becomes elusive. Then I write in longhand in order to be precise. On a typewriter or word processor you can rush something that shouldn't be rushed — you can lose nuance, richness, lucidity. The pen compels lucidity."

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For Teacher Use	Points/Goal	You Earned
Annotation	20	
Highlighting/ Defining confusing terms	10	
80 Word Reaction	20	
Precis Sentence 1	10	
Precis Sentence 2 - 2 things that support the author's statement	20	
Precis Sentence 3	10	
Precis Sentence 4	10	
Subtotal	/100	
Grammar and Spelling Errors	-2 each	
Formatting Errors	-2 each	

Total		
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