

A Meta-Analysis of the Effectiveness of Teaching Handwriting

Handwriting in the 21st Century?

An Educational Summit

January 23, 2012

Steve Graham, Vanderbilt University

Tanya Santangelo, Arcadia University

Presentation Goals

- 1) Establish why it is important to teach handwriting.
- 2) Establish that teaching handwriting makes a difference.





Why is it important to teach handwriting?

- Despite our technologically advanced 'iWorld', the majority of writing done in school still involves paper and pencil/pen.
 - In the primary grades, the only writing activity that occurs less than writing via computer is talking to parents about a child's writing.
- Even at home and at work—we still often write by hand.

Why is it important to teach handwriting?

Difficulties with handwriting have consequences for writing processes and outcomes. 'Reader Effects' (legibility & accuracy)

- Impedes understanding and revising of the content (self & others).
- Negatively impacts others' evaluation of the text.

Poor handwriting can drop a paper that was at the 50th percentile in quality of writing down to the 10th to 22nd percentile. (Graham, Harris, & Hebert, 2011)

Why is it important to teach handwriting?

Difficulties with handwriting have consequences for writing processes and outcomes. 'Writer Effects' (fluency)

- Constrains and interferes with essential aspects of composing:
 - Content Generation
 - Planning
 - Drafting
 - Sentence Construction
 - Revising
 - Motivation, Affect, Perceptions etc.

Why is it important to teach handwriting?

In a nutshell...

- Lower quality compositions
- Difficulty taking notes
- Difficulty with timed assignments and tests
- Everything takes longer
- Poorer grades
- And.....



Really.....?

Writing Prompt #1

30 seconds to plan
1 $\frac{1}{2}$ minutes to write



My Most Memorable Vacation or Trip

30 seconds to plan
1 $\frac{1}{2}$ minutes to write



Really.....?

Writing Prompt #2

30 seconds to plan
1 $\frac{1}{2}$ minutes to write

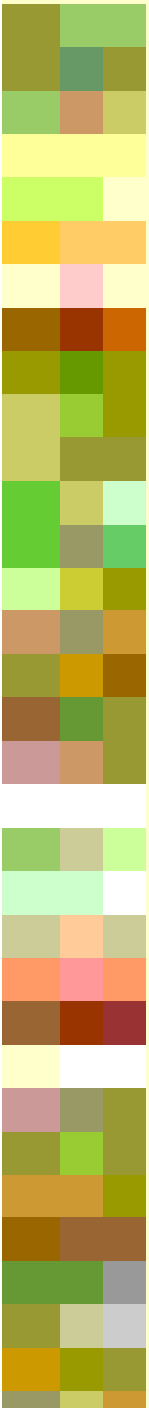
Write with your
non-dominant
hand.



An Inspirational Person In My Life

30 seconds to plan
1 $\frac{1}{2}$ minutes to write





Scoring and Unpacking

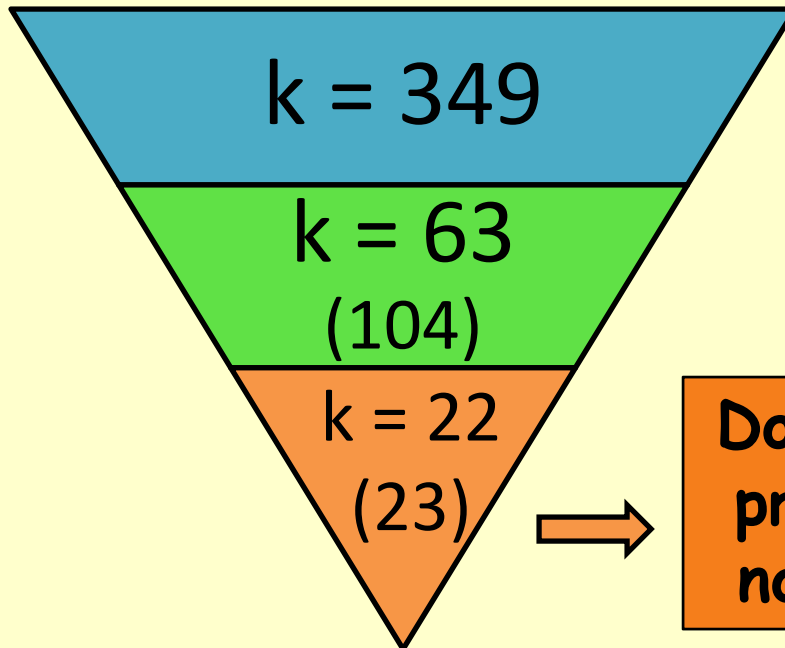
- ✓ Count the number of words written in each sample.
 - ✓ Compare the quality of the writing in each sample.
 - ✓ Think about how others would likely perceive each sample.
-

Are there differences?

If so, why?

Teaching handwriting makes a difference.

- Meta-analysis of all available true- and quasi-experimental studies examining the effects of teaching handwriting.



Does handwriting instruction produce greater gains than no handwriting instruction?

Meta-Analysis (a very quick summary)

- Method for synthesizing experimental studies that helps determine whether an instructional technique, strategy, or intervention is effective across a body of studies.
- Code for study features and findings.
- Based on '**Effect Sizes**' - standardized measure of the quantitative differences between two treatments. **Direction & Magnitude**
 - .25 = small (practically significant)
 - .50 = moderate
 - .80 = large



Teaching handwriting makes a difference.

What happens when handwriting is taught?

- Students' handwriting legibility improves.
 - ES = .59 (moderate)
 - 18 studies, kindergarten-9th grade
- Students' handwriting fluency improves.
 - ES = .67 (moderate)
 - 14 studies, kindergarten-9th grade

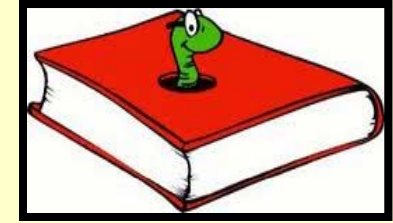


Teaching handwriting makes a difference.

What happens when handwriting is taught?

- The overall quality of students' writing improves.
 - ES = .93 (large)
 - 4 studies, 1st-9th grade
- Students generate more text when they write.
 - ES = 1.58 (large)
 - 3 studies, 1st-9th grade

Moral of the Story



It is important to teach handwriting because it positively impacts meaningful outcomes.

Given that students do most of their writing at school by hand, we need to teach them to write legibly and fluently to help ensure:

- They do well in school,
- Others judge what they write positively, and
- They develop fully as writers.

Common Core doesn't mention handwriting beyond first grade, but legibility and fluency continue to develop way beyond that.