

# The Future of Writing in a Post-AI World

“Show your work” for Writing

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**A new reality:**



**AI can write an essay  
for a student.**



**“The college essay is dead. Nobody is prepared for how AI will transform academia.”**

**— *Stephen Marche, The Atlantic***

# "The Essay Is Dead" Media Panic

Hey, ChatGPT, can you help me write my college admissions essays?

CHATGPT

Absolutely! Please provide me with the essay prompts and any

**We Used A.I. to Write Essays for Harvard, Yale and Princeton**



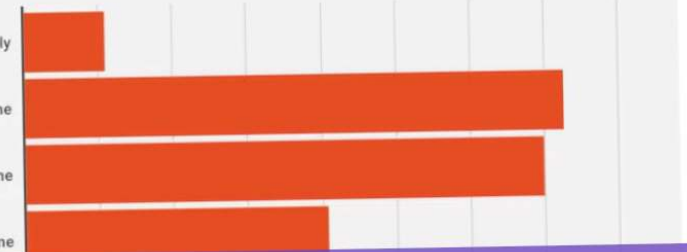
**Colleges Wrestle With A.I.-Generated Essays**



**Now AI can write students' essays for them**

complete written assignments?

Rarely  
25% of the time  
50% of the time  
75% of the time



**30% of College Students Have Used ChatGPT for Essays**



**“The arrival of OpenAI’s ChatGPT ... may signal the end of writing assignments altogether—and maybe even the end of writing as a gatekeeper, a metric for intelligence, a teachable skill”**

**- *Daniel Herman, “The End of High-School English***



**By 2024, 86% of college students reported  
using AI tools for schoolwork**

***Digital Education Council***



**We've been here before:  
The calculator panic.**



***"A calculator can be compared to a sewing machine. If students have to make something as complicated as a dress, do you expect them to do it with a needle and thread?"***

***- Janesville Gazette (February 18, 1975),***





AP photo

**Elementary school teachers picket against use of calculators in grade school**

The teachers feel if students use calculators too early, they won't learn math concepts

## Math teachers protest against calculator use

By JILL LAWRENCE

"My older kids don't pay any attention to an answer being absurd," he said. "Teachers are shy."



***"Calculators will destroy students' ability to do math."***

— Math educators, 1975

# Math Didn't Die – It Evolved.

**Calculators forced a shift: from answers → to process.**

## Before

Focus on computation

Correct answers prove  
understanding



## After

Focus on mathematical thinking

Process reveals understanding

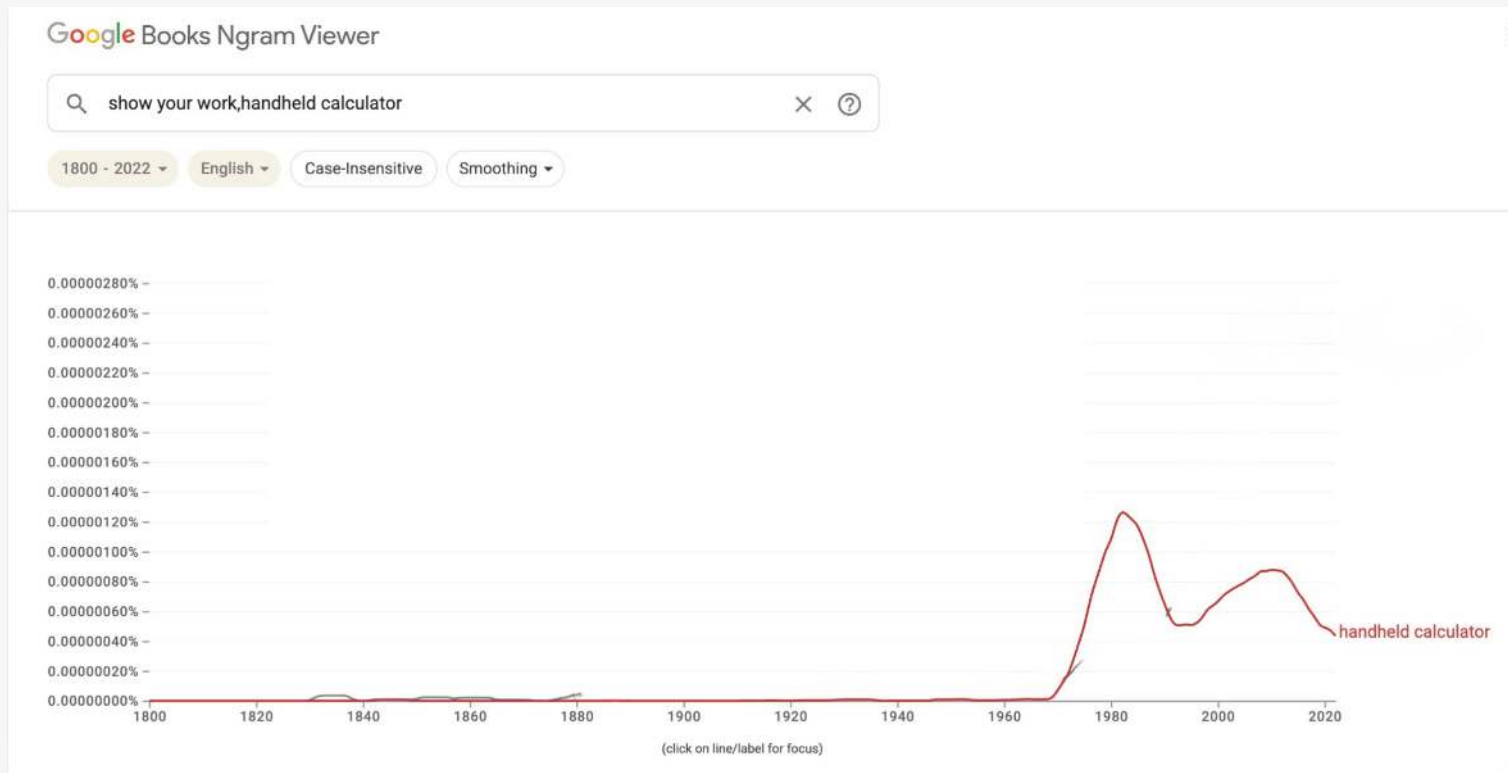
**We no longer focused on the**  
**output (answer)**



**We focused on the**  
**process (the thinking)**

# The Calculator Revolution

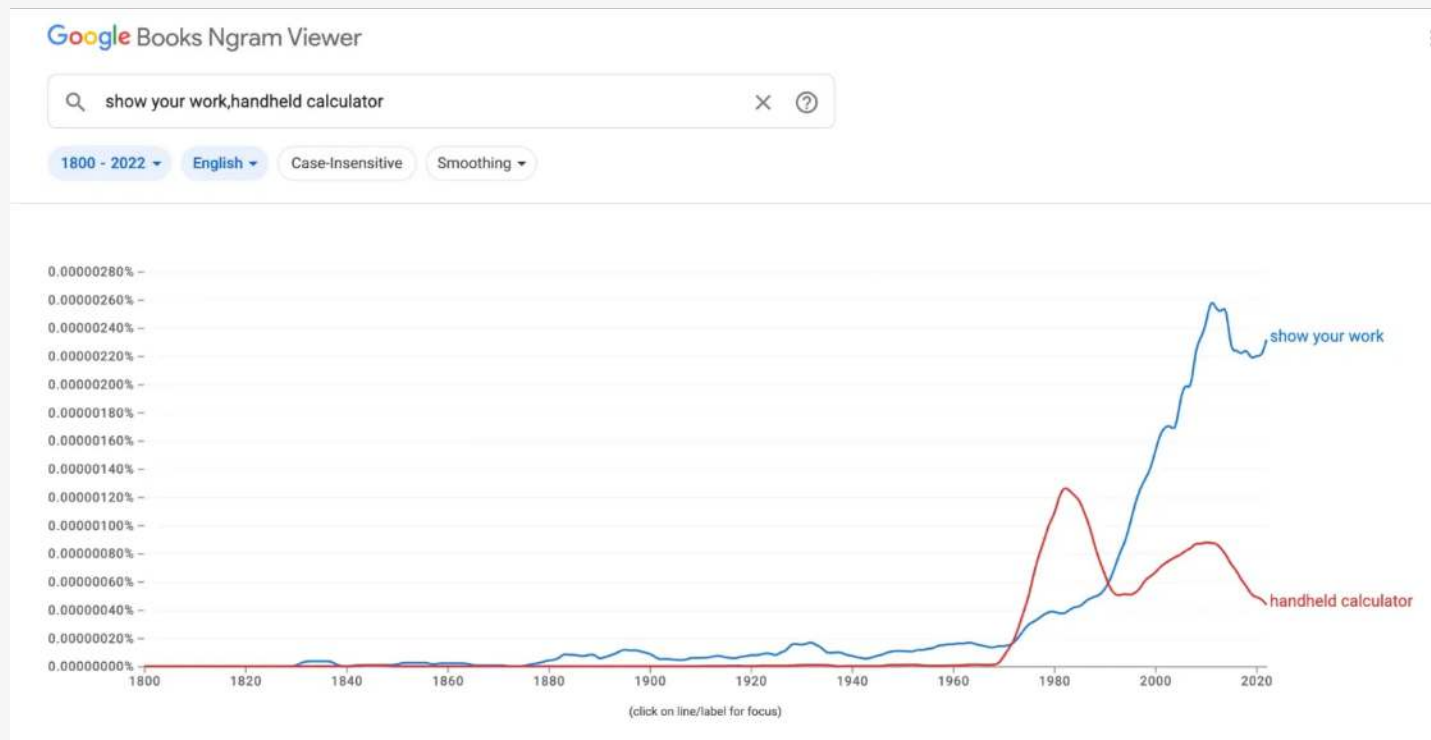
## The Rise of Handheld Calculators (1970s)



Google Books NGram showing the frequency of **"handheld calculator"** in published books (1800-2022)

# The Rise of 'Show Your Work'

The moment everything changed



As *handheld calculators* became mainstream, the emphasis on *showing your work* dramatically increased



***By 1980, the National Council of Teachers of Mathematics endorsed calculator use at all grade levels.***

**“Show your work” became the standard in math instruction.**



**Process**



**Understanding**



**Teaching**



# Math Before Calculators: Focus on Computation

## Multiplication Problem

$$247 \times 36 = ?$$

**Answer: 8,892**

## Division Problem

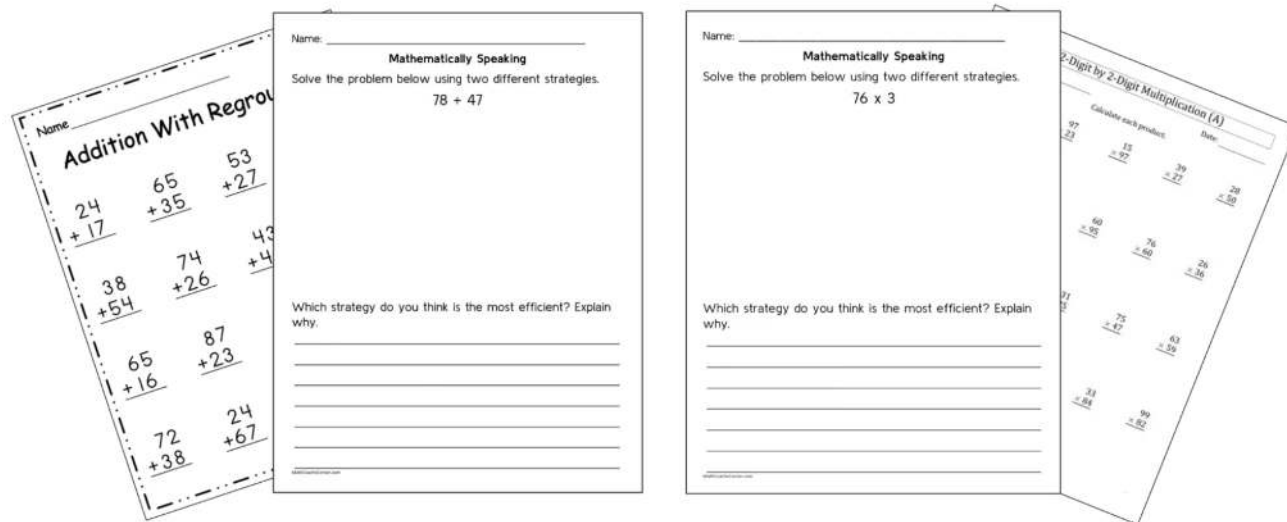
$$1,248 \div 24 = ?$$

**Answer: 52**

*Before calculators, math education focused primarily on computational skills*

**The correct answer was the goal**

## Math After Calculators: Show Your Work



From: <https://www.mathcoachscorner.com/2022/04/rebranding-show-your-work/>

The thinking process became more important than the answer

# AI is like the calculator for writing.



**Calculator**

*Changed math*

=



**AI**

*Changing writing*

*Both technologies automate the mechanics,  
forcing us to rethink how we teach and assess.*

# Then VS Now

**Math didn't die.  
It evolved.**

*1970s - 1990s*



**Writing won't die.  
It must evolve.**

*2020s - 2040s*

**AI can make this worse — or dramatically better.**

**Worse**

Students submit AI essays  
with no engagement.

OR

**Better**

Students make their thinking  
visible through process.

# Before AI: Good essays proved thinking.



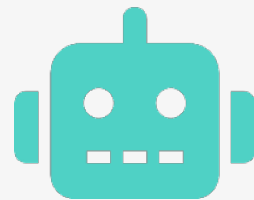
**Quality Essay**



**Quality Thinking**

For centuries, the quality of a student's writing was considered direct evidence of their thinking ability.

# After AI: Good essays can come from a machine.



*The final product no longer reliably indicates student thinking or learning*

# Writing Must Make the Same Shift as Math

We no longer focus on the  
~~output (essay)~~



We focus on the **process**.



## Product

Final essay that could  
be AI-generated



## Process

Thinking journey that  
reveals understanding





“Great writing is great  
thinking”

— Paul Graham

# The Writing Process



## Brainstorm

Generate ideas and explore possibilities



## Organize

Structure thoughts and create an outline



## Draft

Write the initial version of the text



## Revise

Refine and improve the writing

*Each stage reveals different aspects of student thinking*

# Current challenges in writing instruction

# The Writing Crisis

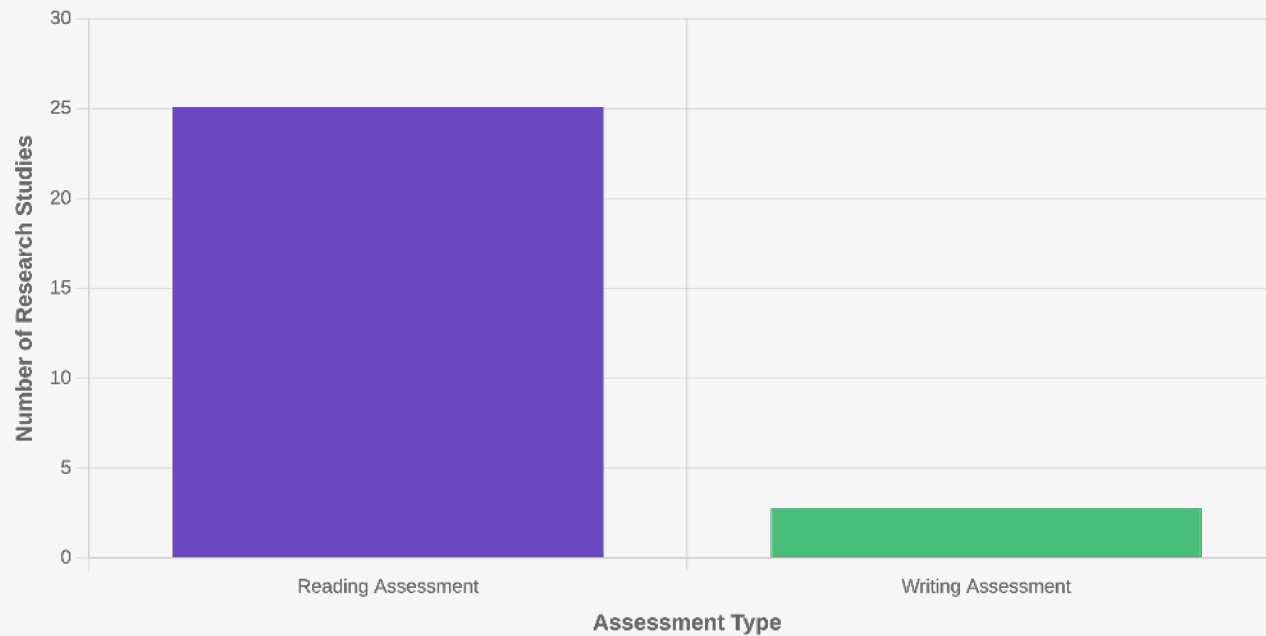
76%

of students cannot write proficiently

*NAEP (National Assessment of Educational Progress / <https://nces.ed.gov/nationsreportcard/pdf/main2011/2012470.pdf>*

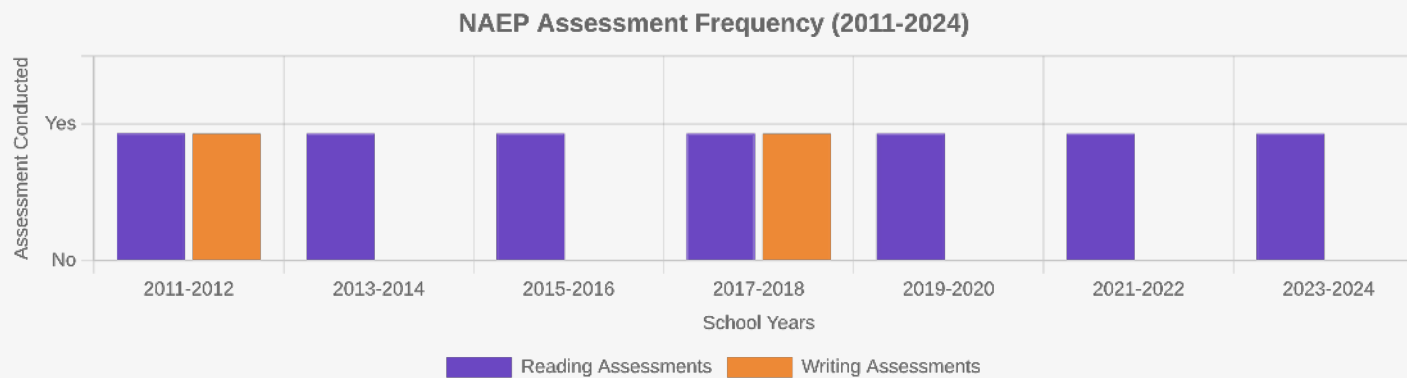
# Reading vs. Writing: A Tale of Two Assessments

Research Studies on Educational Assessment: Reading vs Writing



*Writing assessment receives significantly less research attention than reading assessment*

# The Assessment Gap



## Reading Assessment

Every 2 years  
Grades 4 & 8 assessed biennially  
Comprehensive data since 1992

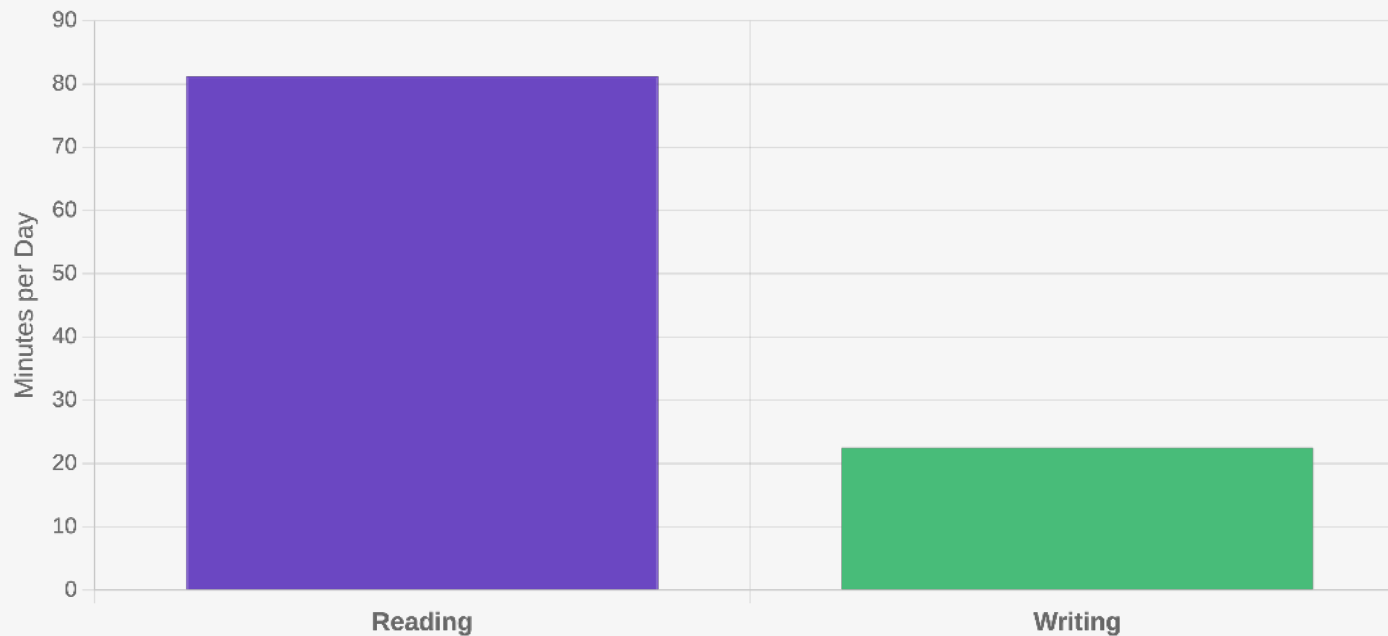
## Writing Assessment

Infrequent & Inconsistent  
Last assessment in 2017  
Previous assessments: 2011, 2007

**We measure what we value.**  
**The imbalance in assessment reflects our neglect of writing instruction.**

# Time Spent in the Classroom

The Imbalance Between Reading and Writing Instruction



*Source: National Center for Education Statistics, 2023*

**Students spend nearly 4x more time on reading than writing**

# Grading Writing: An Impossible Workload

$$\begin{array}{ccccc} 15-20 & \times & 150 & = & 37-50 \\ \text{minutes per essay} & & \text{students} & & \text{hours per assignment} \end{array}$$

**50+ hours**

to grade one writing assignment for all classes

*Traditional writing assessment creates an unsustainable burden for teachers*

Source: Hechingerreport.org (2024): "Even an efficient high school English teacher who can read and evaluate an essay in 20 minutes would spend 50 hours grading essays for 150 students."



How do we address these  
challenges in an AI-powered  
world?

# Old Paradigm of Writing Instruction

## Traditional Approach



Focus on final product only



Summative grading after completion



Feedback comes too late to be useful



Writing process remains invisible

*This approach is increasingly vulnerable to AI-generated content.  
In 2023, Turnitin reported AI-generated text in 11% of student essays submitted*

# New Paradigm of Writing Instruction

## Process-Focused Approach



Focus on the writing process



Formative feedback during writing



Real-time visibility into student work



Thinking process revealed and assessed

*This approach remains valuable even in an AI-powered world*

# The Transformation

## Old Process

- 1 Assign writing task
- 2 Isolated writing by student
- 3 Submit final product
- 4 Grade and provide feedback

## New Process

- 1 Visible planning with scaffolds
- 2 Documented drafting process
- 3 Real-time feedback during writing
- 4 Process + product assessment

## Teacher Shift

From grader → to process coach

## Student Shift

From output-focused → to metacognitive thinkers

# Every Subject Becomes an Opportunity for Metacognition

*Applying "Show Your Work" across the curriculum*



## Math

Show steps and reasoning behind problem-solving approaches



## Science

Document hypotheses, evidence, and experimental reasoning



## History

Analyze sources and construct evidence-based arguments



## Arts

Reflect on creative choices and artistic development

In a world where AI can generate the answer,  
we must teach students to **show their work**  
— and in doing so, how to think.



AI Tools



Process Focus



Better Learning

**"Show Your Work" is the only viable path forward.**

For more, contact [daniel@joinpressto.com](mailto:daniel@joinpressto.com)

# Thank you.

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