

Designing Assignments That Make Thinking Visible

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VISUAL EDUCATION

A COMPARATIVE STUDY OF
MOTION PICTURES *and* OTHER
METHODS OF INSTRUCTION

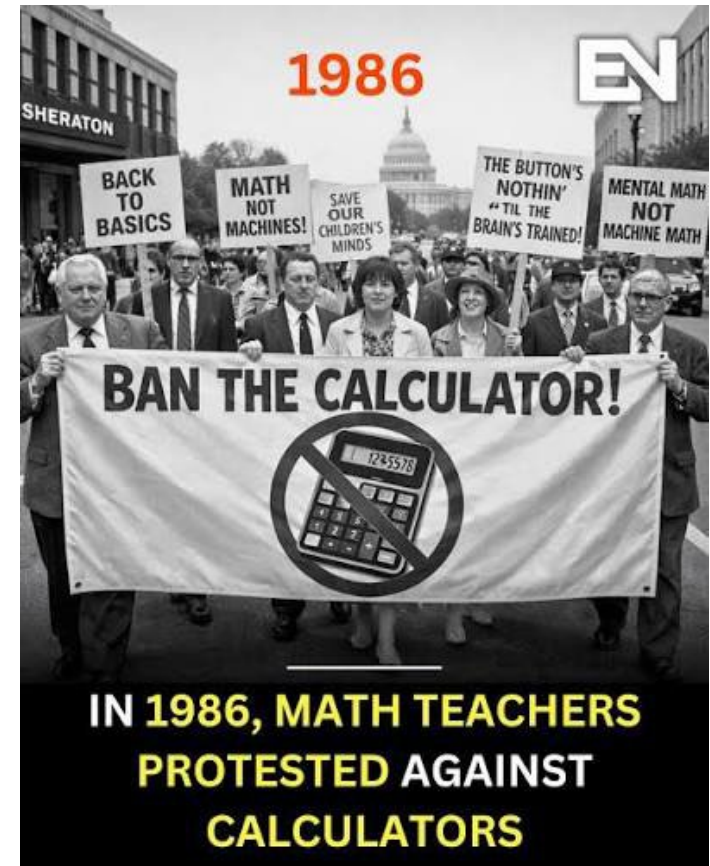
THE REPORT OF AN INVESTIGATION MADE WITH THE AID
OF A GRANT FROM THE COMMONWEALTH FUND

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IN 1986, MATH TEACHERS
PROTESTED AGAINST
CALCULATORS

The AI-Resistant Classroom Is a Myth

- Detection is not an instructional strategy — false positives erode trust; false negatives breed complacency.
- If a tool can complete the assignment, ask why it is assigned.
- Make invisible cognitive work visible: annotated source logs and drafting reflections.
- Design for judgment: compare two AI outputs, name the bias, synthesize from sources.
- Add brief, low-stakes oral defenses; keep policy clear.

Instructional Themes

<i>Instructional design must remain in the driver's seat: AI integration must deepen thinking and support learning.</i>	<i>Assessment should verify genuine understanding while protecting student cognitive work.</i>	<i>AI should support and supplement human thinking, decision-making, and learning.</i>
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Shifting Assessments

Core Principles for AI Use

- **Pedagogy First:** Human reasoning precedes AI involvement.
- **Transparency:** Students must disclose AI use.
- **Privacy:** No identifiable student data in AI tools.
- **AI Literacy:** Candidates must verify accuracy and identify bias.
- **Authentic Assessment:** Instructors verify, not detect, learning.

Transforming Assessments

- Shift to process artifacts, drafts, oral checks, and real-time demonstrations.
- Embed structured AI protocols to strengthen cognition.
- Require verification when AI obscures learning.
- Redesign signature assessments to emphasize situational judgment and contextual decision-making.

Routines That Keep Student Thinking First

Collect, Think, Consult (CTC)

This routine is designed to ensure the student's brain is the first and last "processor" of information.

- How it works:
 - Collect: Students gather raw data or resources on a topic (from a textbook, lecture, or database).
 - Think: Students must write a summary or create a concept map of their findings without any technology.
 - Consult: Only then do they use AI to ask, "What did I miss?" or "What are the counter-arguments to these points?"
- The "Anti-Masking" Strategy: By forcing the "Think" stage to happen offline or before AI interaction, the instructor ensures the student has built a mental schema before the AI can provide a "shortcut" answer.

AI as a Second Collaborator

This routine shifts the AI from a "ghostwriter" to a "teammate" that the student must manage.

- How it works: The student is the "Lead Researcher," and the AI is the "Junior Assistant." The student must assign the AI a specific task (e.g., "Find three metaphors for photosynthesis"), but the student is responsible for the final synthesis.
- The "Anti-Masking" Strategy: Students are required to submit a contribution log. They must explicitly state: "I came up with X, the AI suggested Y, and I decided to use X because of Z." This makes the student's critical thinking visible

Devil's Advocate (works best with RAGs)

This routine uses AI as a "Devil's Advocate" to stress-test student logic.

- How it works:
 1. The student writes a draft or a thesis statement entirely on their own.
 2. They feed it into the AI with the prompt: "Identify three logical fallacies or weak points in this argument."
 3. The student must then write a rebuttal to the AI's critique.
- The "Anti-Masking" Strategy: It is much harder to "fake" learning when you are forced to defend your own ideas against a critique. It requires a deep level of subject matter mastery to know if the AI's challenge is valid or a "hallucination."

Explain Your Prompting (EYP)

This routine focuses on the process rather than the product.

- How it works: Instead of just grading the final essay, the instructor grades the "Prompt History." The student must submit a reflective narrative of their "conversation" with the AI.
- The "Anti-Masking" Strategy: If a student simply asks, "Write an essay on Hamlet," they fail. If they show a sequence of 10 prompts where they asked the AI to refine a specific paragraph or explain a complex quote, they are demonstrating metacognition (thinking about their thinking).

Metacognitive Designs That Need No AI

- Strategy memo first: name the goal, plan, and predicted sticking point before starting.
- Exam wrappers: after each test, diagnose what went wrong and what changes next time.
- Annotated bibliography by hand: why each source matters and where it conflicts.
- Draft-to-draft reflection: mark three revisions and justify each one.
- Oral defense: two minutes explaining the reasoning, not the result.

Sample Documents

- Teacher/Instructor Guidelines

- https://stevenbaule.org/AI_materials/WSU_CoE_AIguidelines20260109.pdf

- Student Guidelines

- https://stevenbaule.org/AI_materials/Student%20Guide_AI_Academic%20Integrity_20261014.pdf

WSU College of Education
Maintaining Academic Integrity in an AI Environment.
With a Focus on Rethinking and Modernizing Assessment

Guiding Values:

AI is poised for a transformative role in teaching, learning, and professional preparation in both PK-12 and higher education. As a College of Education responsible for preparing the next generation of teachers, leaders, and related professionals, WSU must integrate AI in ways that strengthen authentic learning, professional judgment, equity, and academic integrity. Faculty retain the discretion to determine whether or not to encourage, allow, or prohibit AI within their courses to best serve their instructional goals.

Themes of Generative AI Use

<i>Instructional design must remain in the driver's seat: AI integration must deepen thinking and support learning.</i>	<i>Assessment should verify genuine understanding while protecting student cognitive work.</i>	<i>AI should support and supplement human thinking, decision-making, and learning.</i>
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Core Principles for AI Use	Transforming Assessments
• Pedagogy First: Human reasoning precedes AI involvement. • Transparency: Students must disclose AI use. • Privacy: No identifiable student data in AI tools. • AI Literacy: Candidates must verify accuracy and identify bias. • Authentic Assessment: Instructors verify, not detect, learning.	• Shift to process artifacts, drafts, oral checks, and real-time demonstrations. • Embed structured AI protocols to strengthen cognition. • Require verification when AI obscures learning. • Redesign signature assessments to emphasize situational judgment and contextual decision-making.

AI can produce fluent but unreliable content, mask misunderstandings and erode traditional product-based assessment validity. Detection tools are unreliable. Faculty must adopt verification-based assessment and structured AI routines that preserve human cognition.

WSU Commitment
COE will support faculty with training and resources to ensure ethical and effective AI integration.

Core Principles for the Use of AI

- ✓ **Pedagogy First:** Human reasoning precedes AI involvement.
- ✓ **Transparency:** Both educators and students should disclose AI use.
- ✓ **Privacy:** No identifiable student data should be used with AI tools unless fully FERPA compliant.
- ✓ **AI Literacy:** Both educators and students must verify accuracy and identify bias.
- ✓ **Authentic Assessment:** Instructors verify learning not focusing on detecting AI use.

Questions

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www.stevenbaule.org/AI_materials