Rethinking Assessment in the Age of AI

Addressing the problems and embracing the benefits of AI in education through a unique and innovative method

The Assessment Problem

AI makes thinking invisible

AI-generated content hides the student's thought process, making it difficult for educators to assess how students are arriving at their answers.

AI can damage critical thinking

Overreliance on AI tools can lead students to become passive consumers of information, reducing their ability to think critically and solve problems independently.

AI can complete most traditional assessments

Because AI can complete most traditional assessments at an above-average level and cannot be detected, educators need to shift their assessment focus.

AI offers shortcuts

AI-powered writing assistants and content generators can provide quick solutions, but these shortcuts can be detrimental to student learning and development.

The use of AI in education has created a new set of challenges for assessing student learning and critical thinking, requiring educators to find innovative solutions to maintain the integrity of the assessment process.

The Band-Aids

Process Tracking

Use Google Docs tracking tools to track student progress and ensure that meaningful work is completed.

Verbal Presentations

Video and in-person verbal presentations allow educators to verify student understanding.

Social Annotations

Requiring students to annotate each other's work throughout the process ensures students slow down and think about their work.

The Cure: Teaching Metacognition in the Chat through "Grading the Chats"

Process over Product

Focus on demonstrating student thinking through the AI-powered dialogue, rather than solely evaluating the final product.

Demonstrate Thinking

Encourage students to show their thinking process by engaging in an interactive dialogue with the AI assistant, making their thought process visible.

Refocus Students on the Process

Shift the emphasis away from the AI-generated content and towards the student's engagement with the process of thinking, problem-solving, and communicating.

By harnessing the power of AI-powered dialogues, educators can refocus students on the learning process, foster metacognition, and assess critical thinking skills in a more meaningful way.

Incorporate Into Performance Tasks

End of Unit Tasks

Utilize this approach at the end of your units, after students have developed content knowledge through traditional approaches.

Periodic Embedding

This Method should be utilized once a semester in the early days, to reduce burden and understand the process.

Break down Performance Tasks

Divide larger performance-based assessments into smaller sub-steps for AI use. Focus student AI use on one specific task of the PT.

Do Not Abandon the Traditional Assessment

The traditional assessment still matters, but we reduce its value to emphasize these skills.

Utilize this method *after* students embed content knowledge to create the conditions for more meaningful interactions with AI.

The Graphic Organizer is Now the Assessment

Flip the Value

The final product now is less valuable. The process-tracking mechanism counts for more.

Chat with AI == Process

An open-ended interaction with AI becomes a valuable measure of student approaches to problem-solving.

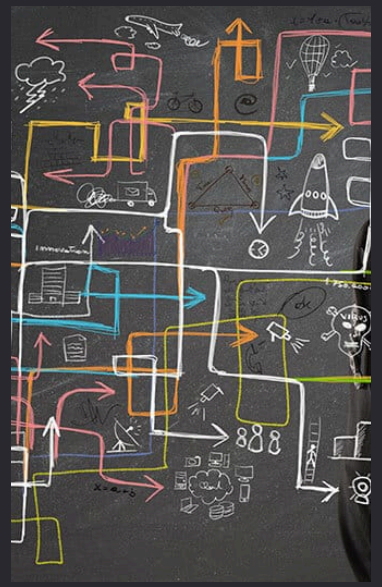
Build Content Skills via Paper and Pen

Assess content skills before the PT via paper and pen.

Set Benchmarks for AI Use

Comparative transcript analysis allows students to understand the objective.

World Economic Forum Skills of the Future



Complex Problem Solving

Ability to analyze and solve multifaceted, real-world challenges that have no clear solution

Critical Thinking

Capability to evaluate information objectively and make reasoned judgments

Creativity

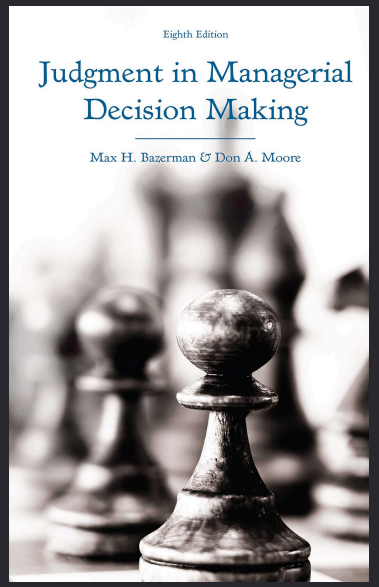
Capacity to generate innovative ideas and solutions beyond conventional approaches

People Management

Skill to motivate, develop, and lead a team to achieve common goals

Emotional Intelligence

Awareness and management of one's own emotions and the emotions of others



Judgment and Decision-Making

Proficiency in weighing options, assessing risks, and making sound choices

Three AI Projects

What did students have to do with AI?

Brainstorm and Demonstrate

Brainstorm a project-based learning plan with ChatGPT and demonstrate an understanding of thoughtful prompting.

Interview and Demonstrate

Interview a fictional character and demonstrate active listening and empathy.

Learn and Demonstrate

Learn about Chinese mythology and demonstrate an ability to catch hallucinations.

Chat Transcript A — Passive Prompting, Shallow Thinking

This student has been tasked with writing a "script" that details the backstory of one or more characters from *Romeo and Juliet*. His task **with AI** is to brainstorm a plan for this creative endeavor.

You are a 9th grade Honors English student. I am asking you to write a script for a new Romeo and Juliet movie bu come up with a backstory for Friar Lawrence and talk about his childhood.

This is very interesting and creative, could you include how Friar became a monk. Make sure to include a clear reason.

"AI - Do my work." Content/Task Misunderstanding

Chat Transcript B — Prompting like a Researcher

This student is developing a plan to analyze the psychology of specific characters in the play. Students were given expansive choice with respect to outputs.

Help me brainstorm an essay that explores the psychology of Romeo and Juliet characters. Be sure to include what sources I should check and where in the book I can find any references. Help me also by giving me ideas to help narrow my research and help clear up my writing to be more specific. You should include different questions I can explore and answer to help show what each character may be struggling with.

Analysis of Task

Evidence of Ethical AI Use

Chat Transcript B — Thinking on Display

This student is developing a plan to analyze the psychology of specific characters in the play. Students were given expansive choice with respect to outputs.

Can you now provide more insight on Benvolio's character and how he connects with Mercutio. Provide information on his connection to the Montagues and how that loyalty is tested through the play. Also refer to his good temper and how it affected the overall flow of the play.

Content knowledge

Increasing Specificity

Deepening the research

Expanding the Goal

Benchmarking: Comparison breeds understanding

Close reading of transcripts sets the benchmark

We treat chat transcripts like we treat writing; as evidence of thinking.

Analyze the text on the page for deeper understanding of what is desired in the chat.

One better, one worse. We read both.

Comparison breeds understanding. This is a pedagogically sound method that is being transferred to chat transcripts.

Students begin to see the difference — and want to do better.

Students engage in close reading analysis to determine effective principles for AI use **in that particular context.**

Student X - Prompting with Purpose

This (fictional) student has been tasked with researching the post-apartheid restorative justice movement. They have been asked to use AI to brainstorm a research plan.

You are an Honors English student in the 9th Grade. You have been tasked with the job of creating an interesting research report on apartheid and South Africa. Specifically, you have been tasked with researching "The Post-Apartheid Restorative Justice Movement: Structures, Laws, and Impact." Please create a five-step project plan that will help you approach this research project. The steps should be concise and easy-to-understand. Each broad step should also be broken down into 2-3 smaller, specific steps that will ensure the research project goes smoothly. Where necessary, please include citations for material that you brought in from outside sources. Lastly, make sure the steps are actionable and clear. Use established principles for conducting research and creating reports for high school students to guide your thinking.

Student Y - Passive Inputs, Passive Outputs

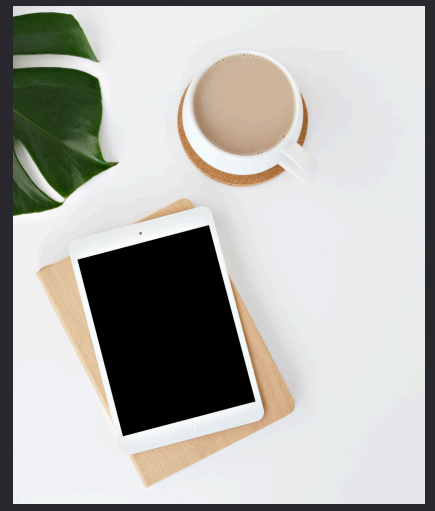
This (fictional) student has been tasked with researching the post-apartheid restorative justice movement. They have been asked to use AI to brainstorm a research plan.

make a plan for a project about the post-apartheid restorative justice movement in south africa

ok now produce the report

Questions That Reveal Student Thinking

- What's effective about this prompting strategy, if anything?
- Which outputs are better?
- Does it matter how we "talk" to AI?
- Where does the student revise or redirect the AI?



What We Look For in a Thinking Chat

Not a checklist. Not a taxonomy. Just signs of real thinking.

Curiosity and Ownership

Shapes the task through layered, thoughtful prompts

Strategic Expansion

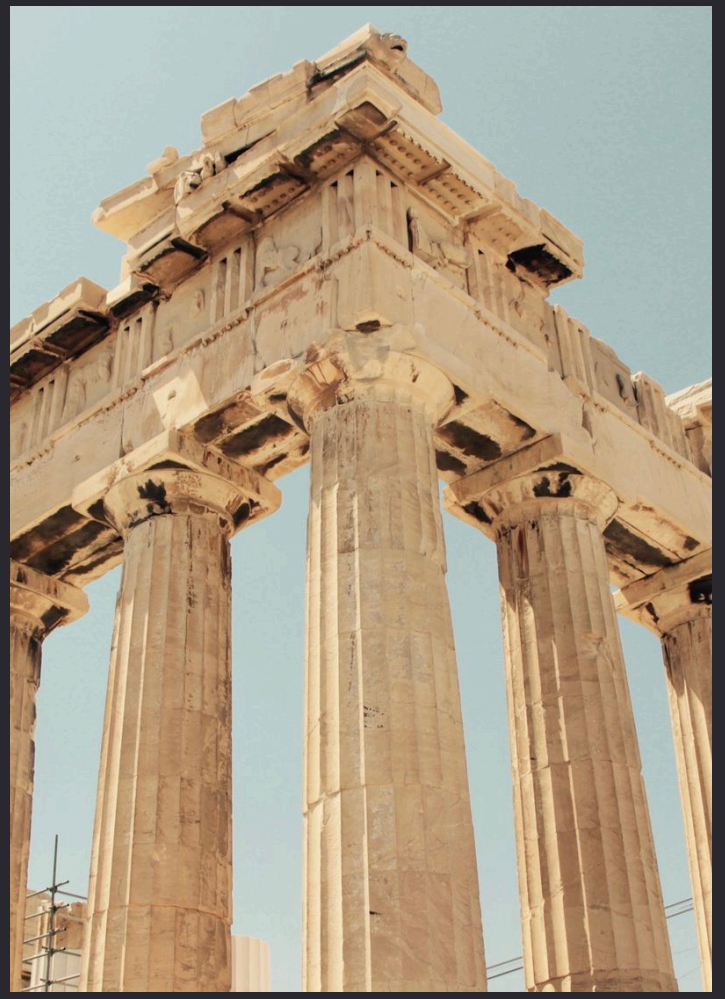
Asks for clarification, examples, or better sourcing

Critical Editing

Demands specificity and improvement from the AI

Metacognition and Self-Regulation

Shows awareness of when to move forward, pause, or revise direction



How Teachers Use This

Model two chats for a task

Engage in close-reading, analysis, and discussion

Co-Construct Rubrics

Grade the Chat

Augment existing assessment protocols with this piece to make student thinking visible, teach metacognition, and more.

AI Chat Transcript Rubric

For Brainstorming with an AI Assistant Bot

	Needs Improvement	Developing	Proficient	Exemplary
Engagement Quality	Student interacts with AI superficially, with vague or irrelevant queries. Student does not follow up on AI outputs or provide context where necessary.	Student asks questions but may not fully utilize AI's capabilities to enhance understanding or writing. Student may also not have included relevant or enough context in their prompts.	Student engages purposefully with AI, including relevant context and asking specific questions. Student may have missed opportunities to build in relevant areas or follow up on important tasks in a way that could have increased value.	Student uses AI to its fullest potential, crafting detailed, insightful questions that lead to substantial improvements in the overall output and level of understanding. Student also responds thoughtfully, building off of AI outputs and seeking to leverage the tool to augment their own thinking.
Critical Analysis	Student accepts all AI feedback, recommendations, and ideas without question. Student does not follow up, ask for clarification, or build off of AI-produced text.	Student occasionally questions or demonstrates an effort to build on AI feedback but lacks depth. Student appears to place value on majority of AI outputs without engaging critically.	Student assesses AI feedback critically by asking for clarifications, justifications, and explanations. where relevant Student attempts to build off of AI outputs but may lean too heavily on AI for answers without asking "why."	Student demonstrates deep critical analysis of AI responses. Student pushes for deeper explanations, seeks an understanding for the "why" behind AI suggestions, and develops new skills via the interaction itself.
Ethical Considerations	Student heavily relies on AI for answers without significant personal input. Student focuses on speed over quality and misses several important moments for learning and/or building.	Student uses AI to assist with tasks but frequently engages in a superficial manner. Student appears to have overly relied on AI outputs for the final product.	Student does not cede control of the interaction or project to AI. Student values their own individual contributions and thought. However, some shortcuts may have been taken.	Student excels in ethical use. Student does not substitute own thought process/ creative output with AI work but uses to AI to augment original ideas or content. AI content that is used augments student thinking rather than replacing it.
Creativity	Student makes little effort to "think-outside-the-box." Student does not seek to expand limits of creativity with the bot as a guide.	Student demonstrates some reflective practices during the interaction but does not push the boundaries of the traditional output. Student interaction may appear rushed.	Student reflects appropriately and seeks ways to push the interaction outside the boundaries of the traditional project output. Student may have missed some opportunities to apply imaginative thought.	Student excels in pushing the interaction outside the boundaries of the stated goal. Student seeks new avenues of creation via their prompts and demonstrates ownership of the overall project.

Feedback

Provide feedback on student use of AI

Formative and Summative Feedback on metacognition in the chat allows students to understand where they are and improve these skills.

Iterate on metacognitive skills

Work with students to further develop their metacognitive skills in the chat. Create new experiences with different bots that emphasize different skills.

Continuously improve AI literacy

Each round of feedback helps students become more thoughtful in the chat. Students become AI-literate and aware of the possibilities inherent in AI use, rather than just the shortcuts.

Provide meaningful feedback on AI use, iterate on metacognitive skills with new experiences, and improve student AI literacy through repetition.

Additional Benefits

No Student Fear of AI Use

Students feel empowered to use AI as a tool, rather than being intimidated by it.

Embrace the benefits and address the problems

The approach allows educators to capitalize on the advantages of AI while mitigating its potential drawbacks.

Deepen students' metacognition

By demonstrating their thinking process, students develop stronger self-awareness and self-reflection skills.

Deepen self-awareness and process engagement

Students become more engaged in their own learning journey, focusing on the process rather than just the final product.

This approach empowers students to use AI effectively, develop essential metacognitive skills, and prepare for the future demands of the workforce.

Standardized Tests

The Elephant in the Room

Services

Instructional Design Support

Tailored support to help educators and schools integrate metacognitive strategies and AI literacy into their curriculum and instructional practices.

Pilot Programs

Hands-on implementation support, including lesson plans, assessment tools, and classroom implementation guidance to test the proposed approach.

Consulting and Guidance

Ongoing advisory services to help educators and schools navigate the integration of metacognition and AI literacy into their teaching and learning practices.

Professional Development Workshops

Interactive workshops to train educators on effectively teaching metacognition and AI literacy, fostering student self-reflection, and implementing the proposed approach.

If you want to learn more...

AI Literacy Partners

- **Website**: www.litpartners.ai
- **Blog**: mikekentz.substack.com
- **Email**: mike@litpartners.ai
- **BlueSky**: @mikekentz.bsky
- **Newsletter:** https://zainetek.beehiiv.com/

Meaningful AI Literacy

- ## Metacognition
  Focusing on what you ask AI to do, why you ask AI to do it, and how you go about using the tool forces deeper metacognition.

- ## Self-Reflection
  Using AI well require self-reflection. Students must ask themselves What, Why, and How am I approaching the bot.

- ## Self-Awareness
  Zeroing in on producing high quality prompts requires students to become aware of the problem they are trying to solve and the methods they are using to solve them.

- ## Problem-Solving and Flexibility
  Evaluating oneself inside the chat pushes a user to analyze their own problem-solving techniques.

- ## Communication, Critical Thinking, and Creativity
  Working well with AI requires communication, critical thinking, and creativity. "Grading the chats" allows educators to evaluate those skills.

Flexibility

AI removes the need for content recall

With AI tools, students no longer need to memorize and recall large amounts of content. The focus can shift to developing process-based skills.

Students can rotate between tasks

By developing metacognition and deep AI literacy, students can rotate between tasks and re-apply what they have learned to use AI well.

Students utilize the same skills to produce high-quality content

The metacognitive and problem-solving skills developed through the proposed approach can be applied across various tasks and domains to create high-quality work.

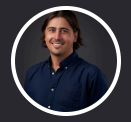
By embracing the changing demands of the future and focusing on process-based skills over content recall, students can develop the flexibility and adaptability needed to thrive in an AI-powered world.

But what if we could see their thinking?

"What does 'thinking' even look like in a chat?"

Every Educator I Talk To!

"Students can demonstrate real thinking in AI chats. We just have to show them how."



Me!

ALP

Set Expectations in the Chat

Show students how to show their thinking

Guide students to articulate their thought process and decision-making when using AI-powered chat. Create exemplar and non-exemplar interactions.

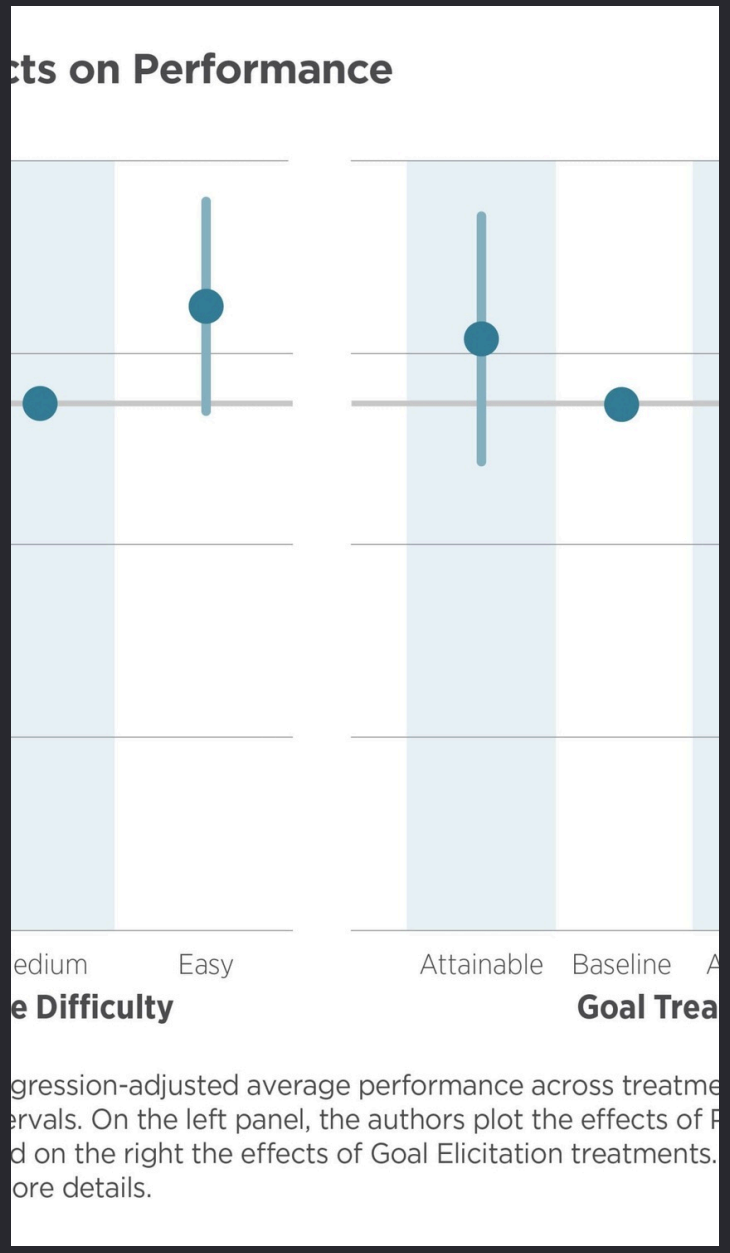
Comparative Analysis of Chats

Have students compare sample interactions with AI. Analyze the differences in approach and the outputs that are produced.

Middle School Writing Instruction

Utilize the instructional methodology of Middle School Writing, but replace essay analysis with transcript analysis.

By setting clear expectations and providing guidance, educators can help students develop the metacognitive skills necessary to effectively leverage AI-powered chat as a tool for learning and demonstration of knowledge.



Draw Conclusions and Set Benchmarks

- Allow students to draw their own conclusions
- Debate, discuss, and create class-wide benchmarks
- Emphasize key metacognitive skills
- Provide practice rounds with feedback