



Bloom's Taxonomy in the Generative AI Age

**The Learning Ideas Conference
May 28, 2025**

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Bloom's Taxonomy



**Original Taxonomy
1956**



**Revised Taxonomy
2001**





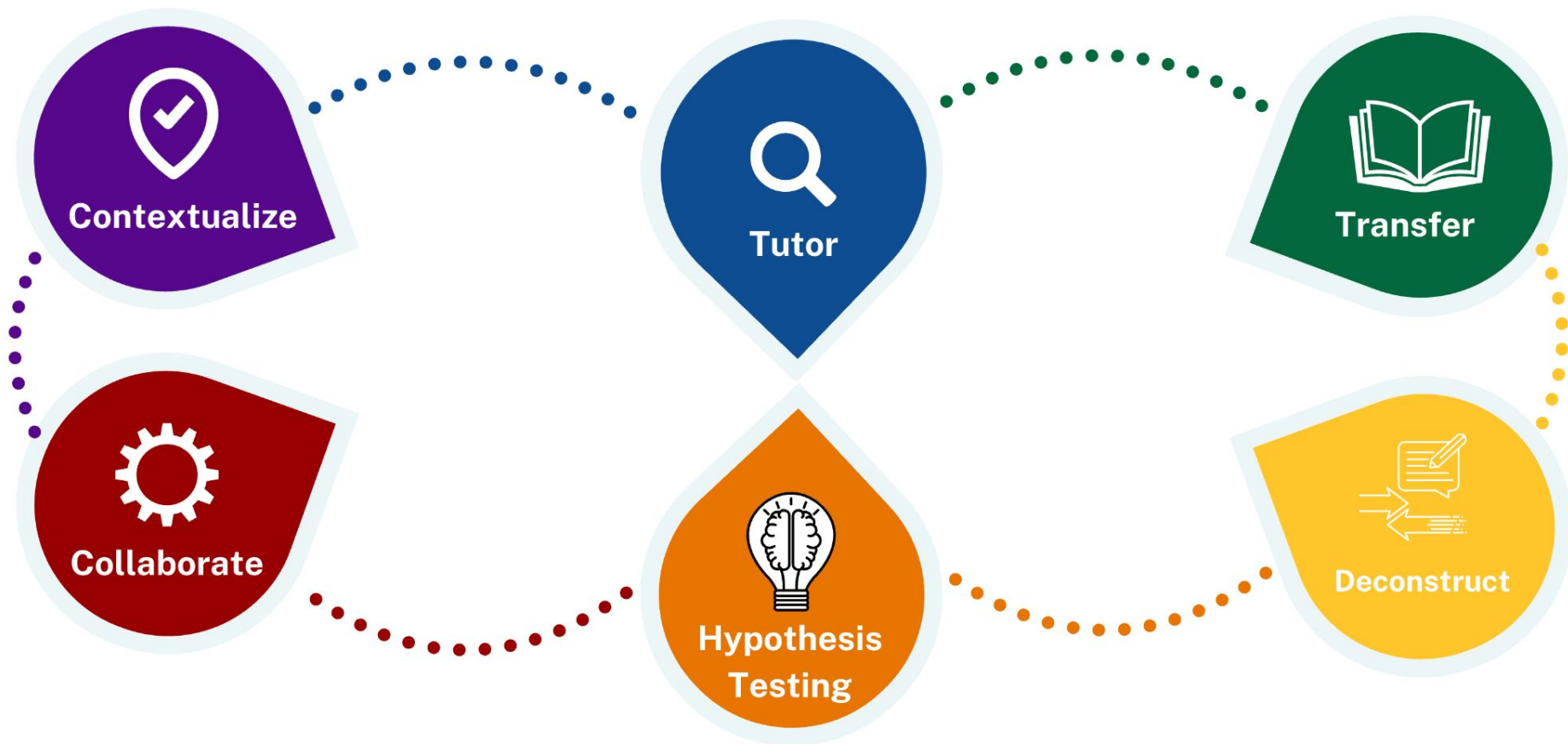
- How does this hierarchical framework need to evolve when AI-enabled students can “create” essays, presentations, demonstrations, and videos in minutes without the need to “remember” relevant information?
- How do the tasks associated with “evaluate” need to change now that AI chatbots can seemingly “understand” ideas and concepts?
- What are the implications for “analysis” activities when learners can prompt GenAI tools to “apply” a theory or finding to another context?



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Re-engineering the Cognitive Levels





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Contextualize

Knowledge

Remember



Contextualize



Focus on acquisition of information and facts to:

- retrieve relevant knowledge from long-term memory
- deepen understanding

Leverage GenAI platforms to:

- emphasize personal relevance
- make connections between a topic and students' lived experiences
- make learning more meaningful
- increase motivation





Prompt 1: *I am a first-year college student majoring in physics. I grew up in an upper middle-class family in New York City as an only child. I get all my news from social media. When I graduate from college, I hope to work in Major League Baseball as a statistician. Based on what I shared about my background, what do you think are some cognitive biases I need to pay attention to? Also, what are some cognitive biases I might find relevant to my career goals?*



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Tutor

Comprehension

Understand



Tutor



Demonstrate understanding through:

- summarization
- explanation

Leverage GenAI tools to act as a “Tutee” of the students who would:

- teach the tool
- describe concepts in their own words
- clarify points of confusion
- reflect on the process





Prompt 2: *Imagine you are a student in my intercultural business communication class. You missed our last class session on how silence is interpreted across cultures, including how gender, age, social class, and other markers of difference influence perceptions. After each statement, pose a question that requires me to improve my explanation with the use of research and concrete examples. Alternatively, you can highlight parts of my explanation that are unclear and need further clarification.*



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Transfer

Application

Apply



Transfer



Connecting theory to practice by:

- applying their understanding of concepts and principles to solve specific problems

Leverage GenAI platforms to act as a “Knowledge Transfer Assistant” (KTA) to:

- provide students with multiple scenarios to apply their knowledge
- give feedback to students on their work
- enhance social learning





Prompt 3: *I am a college sophomore in an Introduction to Microeconomics course. I just learned about the law of supply and demand. Test my understanding by giving me three scenarios (easy, intermediate, difficult) where I have to apply my knowledge to solve a problem, make a decision, and/or make a prediction. After I respond to each scenario, provide feedback on how effectively I applied the law of supply and demand in my response.*



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Deconstruct



Analysis



Analyze



Deconstruct



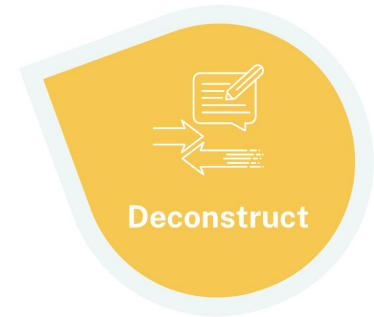
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Deconstruct

Focus on cognitive processes such as:

- investigation
- deriving insights
- forming conclusions



Leverage GenAI tools to:

- identify gaps or problems in the data
- uncover themes and/or patterns across diverse datasets
- enhance students research and analytical skills



Prompt 4: Analyze Best Buy's expansion in China and Starbucks' in India, focusing on factors influencing their outcomes. Then identify one U.S. company that succeeded internationally through cultural understanding and one that failed due to cultural insensitivity. Summarize the key factors that contributed to each company's success or failure in terms of cultural integration.



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Hypothesis Testing

Synthesis

Evaluate



**Hypothesis
Testing**



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Hypothesis Testing

Requiring students to

- critique arguments
- validate a hypothesis
- prove/disprove a theory

Leverage these platforms to provide feedback on:

- reasoning
- argumentative structure
- critical analysis
- use of evidence
- originality of a student's thinking
- specific areas needing refinement





Hypothesis Testing

Assignment: *Engage in a structured dialog with ChatGPT/Gemini to test the hypothesis that renewable energy sources are an effective way to combat climate change. Critically analyze and respond to points generated by the AI, which will try to counter your hypothesis. Be sure to use evidence and well-reasoned arguments. Research topics should include environmental impacts, economic benefits and challenges, technological advancements, and sustainability of energy sources. During the conversation, assess the AI's arguments for logical fallacies, evidential strength, and relevance. Counter these with your own fact-based insights and strategic questioning, aiming to demonstrate the superiority of renewable energies for a sustainable future.*



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Collaborate

Evaluation

Create



Collaborate



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Collaborate

Requiring students to

- construct new knowledge
- produce original work



Use of generative AI tools as a “Production Advisor” (PA) to function as a consultant to student to:

- facilitate student voice
- promote critical thinking
- provide guardrails to ensure students are making new contributions



Project: *Create a knowledge campaign for college students around the topic of generative AI. Use the literature and research from the course to develop three of the following resources:*

1. *A poster*
2. *A YouTube Short*
3. *An [Op-Ed](#)*
4. *A [white paper](#) that features five total interviews with faculty, students, and school administrators.*
5. *A research design on the impact of generative AI on student learning*
6. *A 30-second commercial*

As part of this project, you are required to “collaborate” with a generative AI tool such as ChatGPT or Google Gemini. In order to maximize your learning on this project, input the following prompt into your generative AI tool:

Act as a Production Advisor for my class project, guiding me to brainstorm, plan, and execute effectively. Encourage me to question assumptions, analyze information, and think critically about my work. Challenge me to think outside the box and explore unconventional ideas.

Identify knowledge gaps and offer specific tips to strengthen my voice and improve overall quality. Reference the project rubric for performance criteria. Do not complete the project for me.



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Bloom's Re-engineered



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Thank you

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