Center for Inclusive Teaching and Learning
University College
University of Wisconsin-Stevens Point

Bloom's Taxonomy "Remember" Level and Generative AI

The proliferation of Generative Artificial Intelligence (GAI) tools is reshaping how the world approaches nearly every task, with changes likely to accelerate as these tools become more diverse and powerful. Rightfully, academics are questioning how to most productively deal with the changing technological landscape in higher education. Beyond worries about academic integrity and whether the work students submit is their own, there are legitimate questions about what learning is still foundational to the tasks required of humans in the workplace, and what would be better outsourced and automated. The following breakdown of GAI and Human Skills associated with Bloom's "Remember" level of learning, and possible means of both assessing student learning and incorporating GAI into assignments may provide insight into how to your course should change in the GAI era. Please remember that Microsoft Copilot in the Edge Browser is the only approved GAI tool on our campus.

Remember

This level of Bloom's taxonomy is associated with the ability to recall informational details, whether it be to list components/options, define terms, or sequence events.

GAI does this very well, limited only by the data used to train it. Because LLMs have access to huge amounts of data, they can quickly recall a seemingly endless array of facts and figures. The main shortcomings to GAI in completing the tasks associated with "Remember" are that GAI output will reflect inaccuracies and biases present in the training material, and the potential for hallucination, or pure fabrication of information, especially for information not included in the training data.

Although GAI may surpass humans at remembering, there is a strong case for continued emphasis on humans gaining basic knowledge at this level. Only with expertise and recall of their own can people fact-check or recognize biases in GAI output. Also, if students are to understand most disciplines, they must internalize the basic concepts and definitions, as it would be impractical to engage in higher order tasks without having fundamental knowledge. In this regard, GAI might be thought of as a crutch—it can help with walking but cannot replace legs.

Action Words	**Assessment Techniques and GAI Cheat Potential :1 (hard)-5(easy)**	**GAI-Integrated Assignments**
Count, Choose, Define, Describe, Draw, Find, Identify, Label, List, Match, Name, Quote, Recall, Recite, Sequence, Tell, Write, Reproduce, Select, State, etc.	• **In-class exams or quizzes** that require recall of facts or basic concepts (multiple choice, matching, fill-in-the-blank). GAI-Cheat Potential: 1. • **Oral questioning**. Ask students specific questions in class or in oral examination. GAI-Cheat Potential: 1. • **Homework questions** that require recall of facts. GAI-Cheating Potential: 5. GAI does this very well.	• **GAI-generated study materials:** Student can generate summaries, flashcards, or mind-maps based on course content, to help them review and remember key information. • **Evaluation of GAI-generated student materials**: Students could submit their GAI generated materials, along with a critique or comparison to course materials, indicating strengths and weaknesses of what AI has provided. • **GAI fact checking**: Students input facts they've learned into GAI to check their accuracy. • **GAI-generated learning games**: Students create a learning game for course material using GAI, then refine it based on their assessment of what it is lacking.

References and Reading

Anderson, L. W. and Krathwohl, D. R., et al (Eds..) (2001) *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. Allyn & Bacon. Boston, MA (Pearson Education Group)

Bowen J.A., and C. E. Watson. 2024 *Teaching with AI*. Johns Hopkins University Press, Baltimore

Jackson, N. 2023. Using Bloom's to Decipher AI's Effect on Education. Linkedin.com.

Moffet, E. 2023. Advancing Meaningful Learning in the Age of AI: How Oregon State ECampus revisited Bloom's Taxonomy to help educators navigate the increasing prevalence of AI tools. Oregon State University ECampus News.

Saraf, V. 2023. What Bloom's Taxonomy Can Teach Us About AI. GettingSmart.com.