Center for Inclusive Teaching and Learning
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Bloom's Taxonomy "Understand" 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 "Understand" 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.

Understand

This level of Bloom's taxonomy is associated with comprehension of informational details. It allows one to produce an explanation, interpretation, summary, example, illustration, or translation.

GAI can do very well at some tasks associated with this level of Bloom's taxonomy, but it doesn't not "understand" anything as humans would conceive of "understanding." GAI can recognize and replicate patterns in the training data, but as with tasks associated with recall, GAI is limited by shortcomings in training data and inability to distinguish moral or contextual nuance.

Humans have greater ability to contextualize understanding, and attach emotional, moral, and ethical components to that understanding. Because understanding is foundational to other levels in the Bloom's taxonomical hierarchy, this level of learning is still valuable in many disciplines.

Action Words	**Assessment Techniques and GAI Cheat Potential :1 (hard) -5 (easy)**	**GAI-Integrated Assignments**
Conclude, Convert, Demonstrate, Discuss, Explain, Estimate, Generalize, Identify, Illustrate, Interpret, Paraphrase, Report, Restate, Review, Summarize, Translate, Tell, etc.	• **Paraphrasing exercises**: Ask students to read a passage and paraphrase it in their own words. This requires a good understanding of material. GAI-Cheating Potential: 1 if it occurs under supervision. 5 if take-home. GAI lacks nuance of understanding. • **Explanatory essays**. Assign topics that require students to explain a concept or phenomenon in their own words. GAI-Cheating Potential: In-class, 1. If take-home: 4. Essays are well structured, but lack personal insight and originality. • **Concept maps**. Have students create a concept map that connects different ideas or pieces of information in a meaningful way. GAI-Cheating Potential: In class 1. If take-home: 3. AI can provide information, it will not be able to make the connections between concepts that deep understanding leads to. • **In-Class discussions**. Engage students in class discussion in which they explain their understanding of a topic to others. GAI Cheating Potential: 1.	• **GAI concept checks.** Students can check the accuracy of their explanations and definitions by typing them into the GAI and asking for feedback. • **Interactive tutoring sessions**. GAI can serve as a virtual tutor. IN virtual Q&A sessions, students can ask questions and get immediate responses, helping to clarify misunderstandings and deepening understanding. • **Additional examples.** GAI can provide additional examples of processes or principles, helping students deepen their understanding. • **Reflection on GAI outputs.** Have students input a series of prompts into a GAI and analyze the outputs. They can reflect on how the GAI's responses align with the course material, what the GAI seems to "understand" well, and where the GAI falls short.

References and Reading

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