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

Create

In this level of Bloom's taxonomy, the expectation is to put various components together to produce a new and unique functioning whole. Creating is generative, and necessarily draws upon all the knowledge, understandings, and skills that people have acquired through their experience.

GAI cand be highly creative, because it has at its disposal a vast array of possible components to put together. It can rapidly generate a series of choices or possible organizations. However, GAI is limited by patterns and trends in data. Just as it cannot solve novel problems that don't fit previously observed parameters, it cannot make an intuitive leap or juxtapose elements that are not found together in patterns unless provided with a prompt instructing it to do so. Because it doesn't "understand," it can mistake what is essential in any given pattern (witness GAI trying to make human hands), and it lacks judgement to alter "mistakes."

As with GAI, human's ability to do this is related to their training data and existing knowledge. We do not generate something from nothing. Instead, we see ways to repurpose, reuse, slightly chance, those things that we know. Unlike GAI, we have the ability to apply judgement in creation, so our creations are rarely "wrong."

Action Words	**Assessment Techniques and GAI Cheat Potential :1 (hard) -5 (easy)**	**GAI-Integrated Assignments**
Adapt, Collaborate, Combine, Compile, Compose, Construct, Create, Design, Develop, Devise, Initiate, Integrate, Invent, Formulate, Generate, Make, Modify, Organize, Perform, Plan, Present, Produce, Propose, Rewrite, Revise, Write, etc.	• **Creating a presentation**. Students could create a presentation that synthesizes information from various sources and presents novel arguments. GAI-Cheating Potential: 3. GAI can help construct the presentation, but the student must present it. Although some creativity can be brought in by GAI, much of this would be controlled by the creativity of the prompts used. • **Creating a portfolio.** Students could create a portfolio of their work throughout the course, demonstrating their learning progress, with reflection on both process and product. GAI-Cheating Potential: 2. GAI can help organize and present information, but if the actual content comes from student work through the term, and reflection includes personal elements, GAI will not produce the unique and nuanced work that a human can. • **Original Research Projects**. Students could conduct original research on a topic of their choice, contributing new insights or understanding through analysis and evaluation. GAI Cheat-Potential: 2.5. GAI can help with analysis of data and writing, it cannot frame questions that would lead to novel insights. It could only repackage what others have said, or generate hallucination. • **Invention/Prototype development.** Students could design and produce a new product or prototype that solves a problem or meets a need. GAI Cheat-Potential 1. GAI may be useful in brainstorming ideas and producing a design, but actual creation requires hands-on application and trouble-shooting in real-time.	• **GAI-Assisted Content Creation**: Students could be tasked with creating a blog post, essay, or presentation on a topic of their choice, using GAI to generate initial drafts or ideas which they then refine and expand upon. Students would keep a record of prompts, outputs, and the GAI input in the final project. • **GAI Art**: Students could use GAI to generate a piece of art, such as a painting or music composition. They would then analyze the generated piece and modify it to create their own unique artwork. • **Developing GAI Models**: Students could use GAI to develop their own models or algorithms. They would then test and refine these models, creating new applications or improving existing ones. • **GAI-Powered Brainstorming**: Students could use GAI to generate ideas for a project or research topic. They would then evaluate and select the most promising ideas to develop further. • **Creating Interactive GAI Experiences**: Students could use GAI to create interactive experiences, such as games or simulations. They would design the experience, use GAI to implement it, and then refine it based on user feedback.

References and Reading

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