

Process-based Assignments in a World of AI

The following table identifies some specific types of process-based assignments, the specific challenges that might be encountered in a world of AI, and a few strategies for creating effective prompts to further support learning.

Activity / Skill	Possible Aims	Challenges	Effective Prompts
Brainstorming	Foster idea-generation and divergent perspectives	AI often recommended for brainstorming; has access to massive amounts of data; but also biased and limited to “most common”	Draw on group activities for brainstorming to encourage further diversity
Reflection	<ul style="list-style-type: none"> Encourage self-reflection/ analysis of personal strengths and weaknesses Encourage reflection on learning, achievement and areas to grow Encourage reflection on course material, state of knowledge in the field 	Superficial responses are easily mimicked	<ul style="list-style-type: none"> Require specific detail that includes course material and classroom conversations Ensure prompts are specific to the type of reflection, including this in the marking scheme
Summary	<ul style="list-style-type: none"> Develop skills in realizing relevance Develop writing skills 	Abstracts and summaries are easily generated; another very well-known convenience of AI	Try in-class/in person minute papers or quick summaries with debrief for topics that can be easily copied
Question / Hypothesis Generation	Build effective research skills	Questions can easily be generated with little to no thought	Have students develop a rationale for the question that embeds relevant course material
Data Analysis	Foster high-level quantitative and numeracy skills	AI is well known for its ability to analyze large datasets but relying on automated processes will leave students lacking in critical skills	<ul style="list-style-type: none"> Use in-class, lab or tutorial time for a more proctored environment Provide unique or different datasets to different student groups Situate prompts in specific problems likely to be of interest to students.

Evaluation and Synthesis	Develop higher order critical thinking skills that are typically the aim of higher education	Despite claims that AI is not especially effective at creating effective, informed evaluations, it can easily pull commonly used rationales and string them together in plausible arguments	<ul style="list-style-type: none"> • Build in reflections on process for these types of assignments, encouraging students to think about what they might do differently in the future, what they have learned, etc. • Consider integrating AI literacy into the assignment
Writing	Communication skills are a key graduate attribute and degree level expectation, and effective writing is a cornerstone supporting these skills	AI is well known to produce outputs that can pass exams and assignments at the university level	Build in peer review or presentation opportunities, where students will also need to speak on their topics
Citation	Participation in disciplinary conventions; understanding of academic discourse	Easily falsified; technicalities of precise citation less important with easy copy/paste and bibliography generation tools	Add to the citation task a requirement for students to provide a rationale about citation choice and placement
Curiosity	Learning is built on a foundation of curiosity; involving both humility around not knowing and caring to know	AI offers convenience that sometimes makes it easier to offload cognitive work and remain incurious	<ul style="list-style-type: none"> • Identify areas or provide choices that allow students to pursue their own natural curiosity • Emphasize implications and connections that allow students to see the relevance of the problem