

Critical Questions to Consider Before Using AI in Education Research



These questions are based on the report [Guidelines For Responsible Use of AI in STEM Education Research: Protecting Participant Communities and Research Integrity](#). Released in April 2026, the report covers critical areas of concern as well as specific guidelines and guardrails for protecting participants as well as emphasizing research integrity.

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These questions surface some of the most important issues to consider as you determine whether and how you will use AI. They may be useful for lab meetings, faculty meetings, graduate student seminars, and similar situations to elicit feedback and contribute to AI use policies.

This is an incomplete list. There are a number of other questions that can be asked, and we invite you to add your own questions to this mix.

Deciding Whether to Use AI

Responsible AI use avoids defaulting to AI use. Rather, researchers will be prepared to justify their rationale for choosing to use AI for any given task, much as they would be prepared to justify their choice of research design or of a specific statistical approach for data analysis.

- Do the anticipated outcomes of using AI justify the resources required to use it responsibly (e.g., time vetting AI output)?
- If I am not comfortable disclosing my AI use, is that an indication that the use is not aligned with my values and goals?
- Some scholars have argued that the norm of transparency in scientific research requires that any AI tool used must create reproducible output. Can the responsible use of AI include using tools that create output that is not necessarily reproducible?

Evaluating AI Tools and AI Output

Researchers should be aware of the features of the AI tools that they use so that they can determine whether the data privacy, environmental, and other risks are acceptable for their use case. Further, the critical evaluation of AI output is the key to responsible AI use.

- How will I evaluate the quality of an AI tool? For example, how will I be able to tell if an AI tool uses a lower quality LLM?
- How will I determine if the perspectives of the AI tool's creators are influencing the tool's output?
- How will I determine if an AI tool we use to identify relevant research studies prioritizes certain research (e.g., scholars, organizations methodologies) over others?
- How will I ensure that participant data shared with an AI tool is adequately protected?
- How will I determine whether AI-generated ideas for dissemination have evidence of bias or unfairness (e.g., only suggest sharing results with certain types of community groups)?

Considering Human Impacts

The decision to use AI involves consideration not just of the immediate use case but also of the broader impacts of widespread AI use on researchers as well as on individuals who interact with the research in any way (e.g., researchers, study participants, education leaders). These questions can promote careful consideration of human impacts of AI use:

- Will my use of AI contribute to the creation of a norm where other teams will feel compelled to use AI? For example, if AI permits faster data analysis and therefore quicker publication of results, other teams may feel pressure to use AI tools, or if publications are created with AI, peer reviewers may feel pressured to use AI to keep up with the rate of publication. If the norm in our field changes, what will be gained and what will be lost?
- What are the risks associated with re-identification of participant data as AI tools become increasingly sophisticated and datasets continually merge?
- Responsible use of AI tools requires that a researcher with appropriate knowledge and skills evaluate AI output before using it. How will new researchers develop those knowledge and skills if AI tools are completing the tasks that develop these skills, such as summarizing research literature?
- If I use AI for data analysis, how will I ensure that my own data analysis skills do not atrophy?

- How will I preserve human creativity and autonomy while using AI tools for writing or editing?



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