

Problem:

As AI tools such as ChatGPT, Grammarly, and search engines are becoming more popular, Josh Freeman explains that they noticed a surge of AI use among students in 2024. Instead of using them for support, we're starting to see people let AI do the thinking for them. While that might seem helpful at the moment, it could cause long-term problems when it comes to developing critical thinking, creativity, and problem-solving skills.

Background:

AI has become a part of our daily lives in every way. This hasn't stopped at the classroom either. According to Josh Freeman, a recent survey of 1,041 full-time undergraduate students confirmed several key findings:

- In 2025, 92% of students use AI in some form.
- Explaining Concepts and Summarizing an article were the most popular usages.
- 88% of students have used generative AI to help with their assessments.
- The most popular reasons for using AI were to save time and improve the quality of work.
- 25% felt AI was acceptable to use in an assessment after editing.

A study at Duke University "explored the impact of Generative AI on learning efficacy in academic reading materials." The study tested 32 college-educated individuals made up of 16 males and 16 females in three rounds of reading and writing tasks. Each was assigned to a group of being completely reliant on AI to summarize (AI), asking questions of AI to better comprehend the paper (Active), and completely manual group without any assistance of AI (Manual). The findings were mixed:

- The Manual group achieved an average of 66.7% when tested, compared to 48.4% from the AI group, and 48.9% from the Active groups.
- The completion time for writing was enhanced by the AI and Active groups.
- The quality of the writing from the AI and Active groups improved compared to the Manual group.
- AI mostly benefited those who already had prior knowledge and education on the subject of the paper given. (Ju, 2023)

Who would benefit:

Students, teachers, and anyone involved in learning would benefit the most. This could also be helpful for parents or tutors who want to encourage more independent thinking before turning to AI for help.

Type of Software:

The idea is to create a mobile and web app that still allows users to interact with AI, but in a way that encourages them to think first. The app could include features such as prompts and guiding questions instead of giving full answers right away. It might also ask users to reflect on their thinking before showing help, offer challenge modes with limited AI input, track how much a person relies on AI, and give teachers a way to see how their students are using the tool. The following development tools are being considered: Gemini API for LLM requests, Java, and Python for software development.

References

- Freeman, J. (2025, February 26). *Student Generative AI Survey 2025* (HEPI Policy Note 61). Higher Education Policy Institute. <https://www.hepi.ac.uk/2025/02/26/student-generative-ai-survey-2025/>
- Ju, Q. (2023). *Experimental Evidence on Negative Impact of Generative AI on Scientific Learning Outcomes*. Research Square. <https://doi.org/10.21203/rs.3.rs-3371292/v1>