Change Media – Transform Business
CMTB 25 24. Januar
Hochschule Magdeburg-Stendal

Analysis of Students' Perceptions of AI Tools in Education

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Abstract

This study investigates students' perceptions of Artificial Intelligence (AI) tools in education, seeking to understand opinions and concerns about the growing presence of AI in educational settings. Through an analysis of two publicly available surveys, we examine students' familiarity with AI tools, their perceived usefulness, and concerns regarding AI adoption. Our findings suggest that students generally have a positive outlook on AI tools while also expressing concerns about reliability, security, and privacy issues. We conclude with suggestions on how to address these concerns and improve the effective integration of AI tools in education.

Methodology

- **Qualitative and Quantitative Data Analysis:** Utilizing publicly available datasets to capture students' perceptions of AI tools, and visualizing the answers to identify patterns and trends in the results
- **Statistical Evaluation:** Calculating statistics such as means and standard deviations for quantitative answers, as well as frequency analysis for qualitative multiple-choice responses, to provide a deeper understanding of the data

How familiar are students with AI tools, and how did they learn about them?

- **Knowledge Distribution:** Students' pre-existing knowledge of AI shows a relatively normal distribution, with a slightly positive average level of insight. Over 75% of students have used AI tools at least once
- **Usage Frequency:** The majority of students use generative AI tools at regular intervals, with fewer students using these tools either rarely or very often
- **Information Sources:** Most students learn about AI through the internet and social media, followed by books and scientific papers. This reliance on non-accredited sources can lead to misconceptions about AI
- **Correlation with GPA:** There is an interesting correlation between Grade Point Average (GPA) scores and AI knowledge. Students with GPA scores starting from 7 generally have better knowledge of AI technologies, indicating that higher-performing students might have a greater interest in AI tools

How is AI currently useful to students, and how do they perceive that usefulness?

- **Curiosity and Trust:** Most students are curious about AI technologies, with a few students expressing trust in these tools. There is a generally positive outlook, with only a small number of students feeling fear or indifference
- **Application Areas:** Students believe AI technologies are most useful in fields like medicine and education, and they see AI as impactful in the educational field and academia
- **Personal Usefulness:** Students have a positive view on the usefulness of AI in improving digital competence, reducing time spent on tasks, and providing unique insights and perspectives. Many believe AI will aid them significantly in these areas
- **Efficiency and Time Management:** Most students agree that AI allows them to be more time-efficient, with a high level of agreement that AI helps save time on tasks

How do students see the growth and usefulness of AI in the future?

- **Academic Advantage:** Most students believe the main advantage of AI in learning is increased interactivity and engagement, with some students favoring increased personalization
- **Future Integration:** A majority of students see the usefulness of AI in education and foresee themselves integrating technologies like ChatGPT into their future practices
- **Virtual Assistant for Teachers:** Students believe AI would be useful as a virtual assistant for teachers, enhancing the interactivity of materials and creating a more personalized experience. However, they also identify a potential disadvantage: the lack of a relationship between students and teachers

What are the main concerns, if any, that students have with the usage of AI tools?

- **Privacy and Ethical Concerns:** Students have mixed views on the issue of data collection, with some agreeing that AI tools pose significant privacy and ethical concerns, while others hold a neutral outlook.
- **Reliability Issues:** Students have concerns about the accuracy and transparency of AI tools, although some hold neutral views on this matter as well.
- **Job Loss and Misconceptions:** Students have mixed opinions on AI's impact on job loss, and often lack awareness about AI tools' data practices, partly due to their reliance on social media and the internet for information.

References

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Conclusion

Our study reveals that students have a generally positive outlook on AI technologies, seeing their potential in various fields and envisioning their integration into future practices. Concerns about reliability, security, and privacy issues persist, highlighting the need for education and awareness. To address these concerns, it's essential to provide students with accurate and unbiased information through educational programs and initiatives that promote critical thinking and media literacy, while also encouraging developers to prioritize transparency and accountability.

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