

USING AI IN A LITERATURE REVIEW

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ETHICAL USE OF AI

- AI can be used to help find, organize, and annotate literature.
- It is great in helping one get familiar with a new area of literature that is tangential to their main topic
- It should not be used to write a literature review – which is an essential part of writing academic papers.
- Always verify that the literature exists “hallucinations”

Title: The Benefits of Utilizing Technology in the Classroom

Introduction:

Technology has become an integral part of modern society, permeating various aspects of our daily lives. The educational sector has also witnessed the integration of technology, with classrooms increasingly adopting digital tools and devices to enhance the learning experience. This essay explores the benefits of incorporating technology in the classroom, focusing on improved engagement, personalized learning, and enhanced collaboration. By examining scholarly research and academic journals, we can understand how technology serves as a catalyst for educational transformation.

Body:

Engagement is a crucial aspect of effective learning, and technology has the potential to significantly enhance student engagement in the classroom. According to research by Kay and Lauricella (2020), technology-mediated instruction promotes active learning, allowing students to interact with course material through multimedia presentations, interactive simulations, and gamified elements. These immersive learning experiences can capture students' attention, increase their motivation, and foster a deeper understanding of the subject matter. Moreover, technology-based learning platforms enable real-time feedback and adaptive assessments, allowing students to track their progress and address areas of weakness promptly (Lee, 2018). These features enhance student engagement and empower learners to take ownership of their education.

In addition to increased engagement, technology facilitates personalized learning, catering to individual students' needs and learning styles. Traditional classrooms often struggle to accommodate the diverse needs of students, leading to disparities in learning outcomes. However, with the integration of technology, educators can implement adaptive learning systems that tailor instructional content and pace to each student's abilities. Research by Marín-Díaz et al. (2019) highlights that technology-enabled personalized learning enhances student achievement and academic self-efficacy. Individualized learning paths, adaptive assessments, and intelligent tutoring systems enable students to progress at their own pace, filling knowledge gaps and challenging themselves based on their unique capabilities.

Furthermore, technology promotes collaboration among students, fostering teamwork and communication skills essential for the 21st-century workforce. Digital platforms and tools provide opportunities for students to collaborate on projects, engage in online discussions, and share resources. This collaborative learning approach has been found to improve critical thinking and problem-solving abilities. A study conducted by Vanderlinde et al. (2017) demonstrates that technology-supported collaborative learning environments increase students' engagement, motivation, and higher-order thinking skills. By working together on digital platforms, students can develop their communication skills, learn from their peers, and gain exposure to diverse perspectives, preparing them for future collaborative work settings.

Conclusion:

The integration of technology in the classroom offers numerous benefits that positively impact student engagement, personalized learning, and collaborative skills. Research supports the claim that technology-mediated instruction promotes active learning and enhances student motivation, leading to improved academic outcomes. Moreover, personalized learning facilitated by technology ensures that instruction is tailored to individual students' needs, optimizing their learning potential. Finally, technology enables collaborative learning experiences, developing essential skills for success in the digital age. As technology continues to evolve, its effective integration in educational settings can revolutionize the learning process and prepare students for the demands of the future.

...AND IT PROVIDED THESE REFERENCES:

References:

Kay, R. H., & Lauricella, S. (2020). Exploring the benefits and challenges of using technology in the classroom: A mixed-methods study of the digital generation. *Journal of Educational Computing Research*, 58(3), 569-594.

Lee, M. J. (2018). Exploring the relationship between engagement and academic achievement in the digital classroom. *Technology, Pedagogy and Education*, 27(5), 551-565.

Marín-Díaz, V., Andreu-Andrés, M. A., & López-Pastor, V. M. (2019). Personalized learning in higher education: A systematic review. *Computers & Education*, 137, 133-148


Tech Benefits in Classroom

My Apps Dashboard | Maryville


University Library

Result List: journal of computing


journals.sagepub.com/loi/jeca/group/d2020.y2020




[Volume 58, Issue 5, September 2020](#)
pp. 891-1056




[Volume 58, Issue 4, July 2020](#)
pp. 715-885




[Volume 58, Issue 3, June 2020](#)
pp. 539-709



[Volume 58, Issue 2, April 2020](#)
pp. 275-534



[Volume 58, Issue 1, March 2020](#)
pp. 3-272



[Volume 57, Issue 8, January 2020](#)
pp. 1879-2140

Also from SAGE Publishing

Windows

Search

Task View

Chrome

Edge

Office

Other apps

AI TOOLS EXPLORED FOR THIS PRESENTATION

- ChatGPT 4.o
 - primarily searches ResearchGate when prompted for peer reviewed
- Gemini
 - Owned by Google
- Scopus AI
 - Searches abstracts
- Claude.ai
- Elicit.org
 - AI designed specifically for Literature Reviews
- You.com Research Mode

HOW WE TESTED THE AI

- Asked Each AI System what it could do to help with a Literature Review.
- Asked it if it could help create an annotated bibliography
- Asked that each give us
 - proper APA 7 citation
 - a synopsis of the literature
 - if the study was quant or qual
 - intervention (if applicable)
 - main findings
 - link to paper

TOPIC USED

- Research Problem:
 - How do the goals of problem-based learning (PBL) align with and enhance the desired outcomes of entrepreneurial education, particularly in fostering opportunity recognition, innovation, and entrepreneurial competencies?
- We have recently written two papers on the subject, so are familiar with the literature (having conducted traditional lit reviews using Google Scholar searches and EBSCO)

GOAL – ANNOTATED BIOBIBLIOGRAPHY

- Our goal for this project is show you how you can create an annotated bibliography with these tools and how to affectively and ethically use them in your research. We will be exploring some free and some paid versions of this material.

CHATGPT 4.0

- Paid Version ~\$20 per month
- What it says it can do:
 - Identify Sources – “While I can’t directly access subscription-based databases, I can guide you on where to look and how to search effectively.”
 - Summarize Research
 - Organizing Ideas
 - Writing and Editing
 - Citation Management
 - Critical Analysis: “I can assist in comparing and contrasting the different sources, identifying gaps in the literature, and suggesting areas for further research”

RESULTS

- 15 Articles from 1986-2014 were found (we asked for foundational research to be included). Additional prompting asked for all our parts and put into table format – which we cut and pasted into an excel document.
- Main source ResearchGate
- Only one Link Worked, and it was not to the correct paper
- One Hallucination was found
- 12/15 papers were easily found in pdf form without link to library. One requested through inter-library loan, one found in EBSCO database, one found – but paper not present (sort of)

OPINION ON DATA PULLED

- Dated, nothing recent due to copywrite
- Summaries were vague and mostly unhelpful.
- Cutting and pasting pdfs and asking for specific questions improved results significantly for annotated bibliography

GEMINI

- Google's LLM
- What it says it can do:
 - Research and Organize – brainstorming topics, keyword development, source evaluation, organization and outlining
 - Writing and Analysis – summarizing and paraphrasing, synthesizing information, identifying gaps in research, developing a strong thesis statement, citation formatting
 - Critical thinking and analysis – questioning sources, identifying patterns and trends, evaluating arguments

RESULTS

- “While I can access and process information from Google Search, I cannot directly conduct a search on Google Scholar and provide specific citations in APA format. This is due to limitations in my current capabilities.”
- When trying to force it to do it anyway, it asked for time – eventually two days of time....And never completed the search.

OPINION ON DATA PULLED

- Not for literature search.
- Open access articles loaded into dataset and asked specific questions yielded decent summaries.
- Did not load copywritten material – greatly limiting the use of this as an aid.

SCOPUS AI

- Add-on to the Scopus Search tool
- What it says it can do:
- “Scopus AI is an intuitive and intelligent search tool powered by generative AI (GenAI) that enhances your understanding and enriches your insights with unprecedented speed and clarity. Built in close collaboration with the academic community, it is a fully realized, subscription-based solution that serves as your trusted guide through the vast expanse of human knowledge found on Scopus, the world's largest multidisciplinary and trusted abstract and citation database.” <https://www.elsevier.com/products/scopus/scopus-ai>

RESULTS

- Scopus AI searched abstracts from Scopus provided articles.
- It could not give us it in table format or extract anything beyond the abstract. But, it was able to list 7 citations that we then evaluated. Could not provide 15.

OPINION ON DATA PULLED

- Unable to provide us with help on our annotated bibliography. Really just an enhanced search bar.
- Articles pulled were all relevant.

CLAUDE.AI

- Closed Network AI
- What it says it can do:
 - Planning and Organizing
 - Research support – provide general information, suggest search terms, offer guidance on finding reliable sources (thought I can't search the internet or access databases directly)
 - Analysis and synthesis
 - Writing Assistance
 - Formatting and Citations

RESULTS

- Refused to attempt to provide sources. Suggested Business Source Complete and Scopus.

OPINION ON DATA PULLED

- Not for literature search.
- Open access articles loaded into dataset and asked specific questions yielded decent summaries.
- Did not load copyrighted material – greatly limiting the use of this as an aid.

ELICIT.ORG

- AI designed specifically for Literature Reviews
- What it says it can do:
 - Speed up Literature Review
 - Find papers they couldn't find elsewhere
 - Automate systemic reviews and meta-analyses
 - Learn about a new domain
 - Import from Zotero
 - 125 million papers available

RESULTS

- 15 actual articles all from Semantic Scholar, All with links to actual article (pay wall in place). Data mainly from abstract. Two had pdfs available. Not all could be found on Google Scholar.
- Dates of articles were 2004-2023. Foundational articles not located, but all stayed on topic.

OPINION ON DATA PULLED

- By far the best tool.
- Has most of the capabilities of other citation managers, but unable to do Word plug-ins.
- Free version will give you basics and help find alternative articles.
- Articles pulled were relevant.

CONTACT INFORMATION

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