82.9% of students agreed that **mandatory LLM** assignments changed their opinion of LLMs for **academic work**

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If You Can't Beat It – Require It! Exploring Mandatory LLM Usage in a Data Science Curriculum

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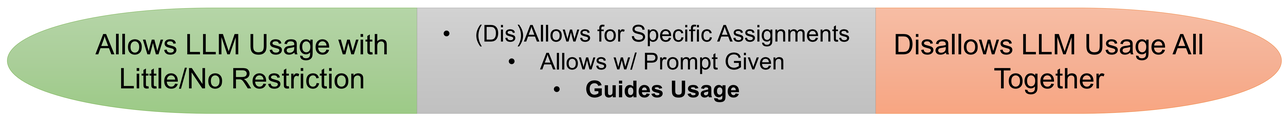
Problem

The use of generative artificial intelligence (GenAI) (particularly large language models (LLMs)) has steadily increased since the release of ChatGPT in November 2022, particularly among faculty and students of higher education institutions (HEIs)[1]. However, most institutions lack direct policy development regarding acceptable usage[2]. Further, many of these institutions leave policy decisions to the discretion of each individual college, department, or instructor. Policies that do exist range across a spectrum, with most falling into the extremes. Policies that fall between these two extremes are rare, especially those that *mandate* GenAI usage.



This pilot study is interested in the use of mandatory GenAI/LLM assignments in a data science curriculum. Specifically, it asks:

1. Does mandating LLMs in assignments lead to changed opinions towards LLM usage?
2. Do these assignments lead to changes in the way students complete work?
3. Do these assignments lead to changed behaviours regarding LLM usage?

Method

Students in the Masters of Science in Data Science program at MSU are required to take **two STT courses consecutively: STT 810 & 811**. In STT 810, students were given free-reign of their LLM usage. In STT 811, students were allowed free-reign (except for one exam), and they were given ***mandatory*** LLM assignments. **A survey was given to the cohort of 44 students during the last week of STT 811.**

The survey was given through the Qualtrics platform. Students had time in-class to complete the survey, and the survey was accessible through a QR code on the board and through our course management system. A minimal amount of extra credit was rewarded. Students were able to answer as many or as few questions as they preferred, and partial responses were kept. The survey consisted of 6 Likert-style questions, each with a short-answer follow-up question. There was a 7th short-answer question to leave additional comments about the mandatory assignments.

This study has been determined to be exempt under 45 CFR 46.104(d) 2ii.

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Results

52 survey responses were collected. 5 duplicate responses were removed, 1 response without consent, and 7 consented but blank responses were removed for a total of **43 retained responses**.

Question	% Agreed	% Neutral	% Disagreed
The mandatory LLM assignments changed my understanding of how large language models work.	81.4	4.7	13.9
The mandatory LLM assignments changed my opinion of LLMs for academic work.	82.9	4.9	12.2
The mandatory LLM assignments changed my opinion of LLMs for personal work.	66.6	16.7	16.7
The mandatory LLM assignments changed my confidence in using LLMs for academic work.	77.5	15	7.5
The mandatory LLM assignments changed the way I complete work in my courses.	67.5	20	12.5
The mandatory LLM assignments changed the way I complete work in STT 811 compared to the way I completed work in STT 810.	60	30	10

Follow-up questions show that the student's felt the LLM assignments made their LLM usage more **efficient**, **reliable**, **and aided in understanding** of the lecture material. Some students reported a **decrease in LLM usage on non-mandatory LLM assignments** in general, while others reported that they felt **more comfortable using it**. The instructor noticed a **decrease in obvious GenAI submissions** and noted an **increase in answer quality**.

Take-away

These results show promise for implementing and developing pedagogy around mandatory LLM assignments. This pilot study hopes to be expanded upon with a more rigorous design, larger group of students and courses, and fine-tuning. Additionally, future efforts will seek to include different types of mandatory LLM assignments and to explore pedagogy surrounding them. **Finally, this study hopes to encourage others to implement LLM usage as a learning experience within their own classrooms.**

Sources

[1]Guizani, S., Mazhar, T., Shahzad, T., Ahmad, W., Bibi, A., & Hamam, H. (2025, February 15). A systematic literature review to implement large language model in higher education: Issues and solutions . Springer Nature. https://link.springer.com/article/10.1007/s44217-025-00424-7

[2]Kim, D., & Wu, J. (2024, December 8). Artificial Intelligence in higher education: Examining the AI policy landscape at U.S. Institutions | Proceedings of the 25th Annual Conference on Information Technology Education. ACM Digitial Library. https://dl.acm.org/doi/abs/10.1145/3686852.3687076