Characterizing Generative AI Policies in a University Mathematics Department

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Background and Literature Review

For the 2025–26 academic year, the university examined in this study required instructors to include a generative AI (GenAI) policy in their syllabus but provided only sample language, not specific directives. Prior research shows mixed effects of GenAI on student learning, enhancing engagement and confidence in some contexts (Serhan & Welcome, 2024; Kestin et al., 2025; Wang & Fan, 2025) but reducing cognitive effort and independent reasoning in others (Stadler et al., 2024; Krupp et al., 2024; Kosmyna et al., 2025). While a few studies have examined course-level policies directly (Ali et al., 2025; Kaufmann et al., 2025) none have focused specifically on mathematics courses. This study aims to provide information in this gap by answering the research question: how are math instructors framing policies about GenAI in their syllabi?

Methods

We conducted an inductive thematic analysis (Braun & Clarke, 2006) of 14 course-level GenAI policy statements from math classes at a single institution. This institution serves as a case study and allows us to see what variation exists while controlling for the culture and environment of the department and university. Each policy was authored by an individual instructor or coordinator, reflecting personal perspectives in the absence of established disciplinary norms. Seven policies came from the calculus–linear algebra sequence and seven from proof-based courses. We read and discussed the documents to identify recurring language, rationales, and contrasts in how instructors framed AI use (Bowen, 2009). The resulting descriptive themes capture emerging approaches to GenAI in a university math department.

Results and Discussion

Across the calculus sequence, all courses adopted a moderate approach to GenAI: allowing use for conceptual understanding but prohibiting it for completing homework. Most framed GenAI within broader discussions of learning resources; about half provided explicit examples, and five required students to acknowledge or document their use.

Policies in proof-based courses were more varied. One referred only to general academic integrity, two fully prohibited GenAI, one was completely open, and three mirrored the moderate stance of the calculus sequence. Learning-focused rationales were most common, though some also cited unreliability, integrity, or broader social concerns.

Overall, departmental policies reflected diverse individual perspectives but a shared trend toward moderation, acknowledging that GenAI use is likely and difficult to monitor while clarifying appropriate versus inappropriate use. Several emphasized metacognitive learning rather than unreliability alone, echoing calls to frame GenAI as a learning tool rather than solely a risk (Walkington, 2025). One open policy noted that grades were based mainly on closed-book exams, implicitly justifying limited concern about GenAI access. However, contradictory language, banning GenAI while requiring citation, suggests ongoing ambiguity. Clarifying such tensions and supporting students in ethical, informed use remain central challenges as disciplinary norms continue to develop.

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