

Disciplinary Diversity in Academic AI Adoption: A Comparative Analysis of AI Tool Usage Declarations Across Scientific Fields

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ABSTRACT

This study maps the adoption patterns of AI tools in academic writing by analyzing 7,953 AI usage declarations from journal publications. AI adoption increased from 62.6% (October 2023) to 78.2% (March 2025), approaching a projected 85% saturation level. Physical and Social Sciences show highest adoption rates, while Health and Life Sciences lag behind. ChatGPT dominates across all disciplines (67-75% of usage), with disciplinary preferences emerging: multidisciplinary research favors writing tools while Physical Sciences utilize more translation tools. Language-related functions comprise 80-90% of all usage, with discipline-specific emphasis patterns. Network analysis reveals Physical Sciences exhibit the most diverse tool ecosystem, with ChatGPT serving as the central hub across fields. This first comprehensive cross-disciplinary analysis of actual AI usage patterns contributes valuable insights for academic publishing policies and discipline-specific AI literacy development.

ALISE RESEARCH TAXONOMY TOPICS

Information policy; Artificial intelligence; Education.

AUTHOR KEYWORDS

Generative AI; Academic Writing; Journal Policies.

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