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COLUMN EDITOR'S NOTES

This JLA column posits that academic libraries and their services are dominated by information technologies, and that the success of librarians and professional staff is contingent on their ability to thrive in this technology-rich environment. The column will appear in odd-numbered issues of the journal, and it will delve into all aspects of library-related information technologies and knowledge management used to connect users to information resources, including data preparation, discovery, delivery, and preservation.

Practical Considerations for Adopting Generative AI Tools in Academic Libraries

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ABSTRACT

This column explores the practical considerations and institutional strategies for adopting Generative Artificial Intelligence (GenAI) tools in academic libraries. As higher education institutions increasingly integrate AI into teaching, research, and student support, libraries play a pivotal role in guiding ethical, inclusive, and pedagogically sound implementation. Drawing on case studies from Clemson University, Wake Forest University, and Goldey-Beacom College, the column examines key areas of GenAI integration: contract negotiations, licensing models, trial and pilot program design, data privacy, accessibility, authentication, analytics, training, and ethical use. The article emphasizes the importance of aligning AI adoption with institutional missions, user agency, and evolving frameworks of AI literacy. Recommendations are provided for libraries of all sizes to navigate the dynamic GenAI landscape responsibly and equitably, ensuring that academic integrity and student-centered values remain at the core of AI integration.

KEYWORDS

Generative AI; academic libraries; AI adoption; AI literacy; Data privacy; AI ethics

Introduction

The integration of Generative Artificial Intelligence (GenAI) tools in higher education is rapidly transforming the landscape of teaching, learning, and research. As GenAI tools proliferate and become widely accessible, increasing numbers of students are utilizing—and in some cases, paying for—these technologies. In response, academic institutions are adopting AI-powered tools to enhance educational experiences, improve research workflows, and enable personalized learning environments.

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However, the rapid evolution of GenAI tools also presents challenges, particularly in ensuring their adoption aligns with institutional goals, ethical standards, and pedagogical best practices. Academic libraries play a crucial role in this transition. Through research guides, workshops, training materials, and collaborative initiatives with campus partners such as Centers for Teaching Excellence, Career Centers, and Information Systems, libraries provide essential guidance to faculty, students, and administrators navigating AI adoption.

Beyond practical implementation, institutions must address broader concerns surrounding GenAI, such as academic integrity, ethical use, and accessibility. Reports, such as *How Generative AI is Changing the Classroom* (Vyse, 2024), highlight ongoing debates over the appropriate integration of AI in teaching and research. To support informed decision-making, frameworks for AI literacy are emerging, with national organizations such as EDUCAUSE (Hibbert et al., 2024) and the Association of College and Research Libraries (ACRL) publishing guidelines on AI competencies (Vitale, 2024). Additionally, tools like Ithaka S + R's Generative AI Product Tracker (Ithaka S + R, 2024) offer insights into the expanding landscape of AI-powered educational technologies, helping institutions critically evaluate their benefits and limitations.

This paper explores the key practical considerations for adopting GenAI tools in academic libraries. It examines critical factors such as contract negotiations, trials, and pilots, data collection and privacy, accessibility and inclusivity, authentication and integration, usage statistics and analytics, workforce training, and ethical considerations. By analyzing real-world examples from institutions such as Clemson University, Wake Forest University, and Goldey-Beacom College, this paper aims to provide academic librarians and administrators with actionable insights for making informed AI adoption decisions.

Contracts and licensing

Adopting Generative AI (GenAI) tools in academic libraries requires careful consideration of licensing agreements, cost structures, and institutional policies. While some universities have centralized IT procurement processes, others—particularly smaller institutions—rely on library-driven licensing decisions. This section examines different approaches to AI tool adoption at a large public research university (Clemson University), a mid-sized private university (Wake Forest University), and a small private college (Goldey-Beacom College) to highlight strategies relevant to a wide range of academic libraries.

Understanding subscription models

GenAI tools typically offer multiple subscription tiers, from free versions with limited functionality to enterprise-wide licenses with full administrative controls. Institutions must weigh cost, accessibility, and security when determining the best licensing model for their needs.

For students, individually subscribing to AI tools like ChatGPT Plus, Midjourney, or Scite.ai can cost between \$10 and \$50 per month. Over an academic year, this adds up to several hundred dollars—an expense that may not be feasible for all students. Many academic libraries negotiate institution-wide licenses to promote equal access and affordable learning, ensuring all students and faculty have access to these tools without financial burden.

Beyond cost, enterprise-level licenses often provide enhanced privacy protections compared to free or personal subscriptions. Many AI tools collect user data, raising concerns about compliance with regulations such as FERPA (U.S.), GDPR (EU), and institutional data policies. Enterprise agreements typically offer better transparency regarding data storage, ownership, and security measures, reducing institutional risk.

Key contractual considerations

When negotiating AI tool contracts, academic libraries must consider:

- License Scope – Will the tool be available to all students and faculty or restricted to specific departments?
- Data Privacy and Ownership – Does the vendor collect, store, or share user data? Does this align with institutional policies?
- Cost Structure and Renewal Terms – Are there hidden fees, usage caps, or pricing escalations in renewal contracts?
- Termination and Liability – If the institution discontinues use, what happens to stored user data? Who is responsible for legal or ethical concerns?
- Accessibility – Does the AI tool comply with universal design and accessibility standards?

Different institutional approaches to licensing

Clemson University: a large public research university

Clemson University, a public land-grant research institution, has an established and collaborative process for procuring and negotiating campus-wide subscriptions. The process involves the Libraries, Central IT, and the Procurement Office for AI tools.

- In July 2023, Clemson piloted Scite.ai, leading to a campus-wide subscription for the 2023-2024 academic year based on high usage and positive faculty feedback.
- In 2024, the university expanded its AI toolset for the campus community by adopting JSTOR AI and facilitating the adoption of Microsoft Copilot for Work and Education.
- In 2025, Clemson Libraries activated the Primo Research Assistant by Ex Libris, allowing users to perform conversational searches instead of traditional keyword searches; the responses are in paragraph style and include inline citations.
- Clemson prioritizes student and faculty feedback, as well as comparative pricing options and discounts.
- Privacy and accessibility compliance are major considerations, and Clemson ensures that any AI tool contract aligns with institutional security policies before full adoption.

Key Takeaway: Large research universities can leverage their scale and purchasing power to secure enterprise licenses with competitive pricing, ensuring broad access while maintaining security compliance.

Wake Forest University: a mid-sized private institution

Wake Forest University, a mid-sized private university, takes a strategic, phased approach to AI tool adoption. Unlike large research universities, Wake Forest does not immediately commit to campus-wide licenses but instead pilots tools before deciding on long-term investments.

- In Spring 2022, the Z. Smith Reynolds Library piloted Scite.ai, gathering user feedback before adopting the tool.
- In Spring 2024, the library piloted Elicit.com. After the trial, the pricing model changed from a credit-based system to a subscription model. Due to contractual misalignments, Wake Forest chose not to move forward with a contract.
- In Fall 2024, the university's Information Systems department adopted Gemini, Microsoft Copilot, and Adobe Firefly.
- This highlights the importance of flexible contracts—long negotiation periods can be impacted by vendor-driven changes, making it essential for institutions to anticipate evolving business models.

Key Takeaway: Mid-sized institutions can benefit from trial-based adoption, allowing for informed decision-making and financial prudence before committing to enterprise-wide AI tool licenses.

Goldey-Beacom College: a small 4-year emerging Hispanic institution

Goldey-Beacom College, a small private college, takes a library-led approach to AI licensing, managing authentication and procurement independently from the institution's IT department.

- Since 2019, the library has strategically licensed AI tools, prioritizing usability and affordability.
- Tools currently licensed include Scite.ai, Litmaps, Grammarly, and Scholarcy, with decisions based on teaching and learning needs rather than research priorities.
- Unlike larger institutions, Goldey-Beacom's focus is on scalability and accessibility, ensuring AI tools align with humanities, social sciences, and composition courses.
- Authentication is handled via OpenAthens, allowing seamless library-managed access while reducing reliance on IT for integration.

Key Takeaway: Smaller institutions with limited budgets can take a library-first approach, focusing on teaching and learning applications while managing licensing independently from centralized IT.

Licensing strategies for all academic libraries

Libraries of all sizes must navigate unique challenges when adopting AI tools. While large research institutions like Clemson benefit from enterprise-wide procurement, mid-

sized universities like Wake Forest often rely on phased adoption through pilots, and small institutions like Goldey-Beacom must prioritize accessibility and affordability when selecting tools.

By considering cost structure, privacy, scalability, and institutional needs, libraries can make informed, strategic decisions that ensure AI tool adoption is both sustainable and beneficial for students and faculty.

Trial periods and pilots

Before committing to a long-term adoption of AI tools, academic libraries must evaluate their effectiveness through structured trial periods and pilot programs. These trials are critical in determining whether AI tools meet pedagogical needs, comply with institutional policies, and offer value for faculty and students. Given the rapidly evolving landscape of generative AI, institutions must also remain flexible, as tools frequently change their pricing models, functionality, and accessibility.

While trialing AI tools follows a similar overarching goal—to assess their effectiveness before full-scale adoption—the approach varies significantly depending on institutional size, governance, and priorities. Large research universities often rely on robust usage data to guide their decisions. At the same time, mid-sized institutions may focus on phased adoption strategies, and smaller colleges frequently take a library-first approach to ensure equitable and pedagogically sound implementation.

At Clemson University, AI adoption is guided by data-driven analysis and structured faculty engagement. In the summer of 2023, Clemson Libraries conducted a 1-month trial of Scite.ai, a citation analysis tool that provides contextual insights into scholarly research. Throughout the trial, more than 90 unique users conducted over 900 sessions, with faculty and graduate students from 11 different departments participating. Structured feedback was gathered, with an average rating of 4.57 out of 5, and users praised the tool for its ability to surface relevant literature and analyze citation networks efficiently. Given the strong engagement and overwhelmingly positive feedback, Clemson adopted Scite.ai for the 2023–2024 academic year.

Recognizing that AI adoption requires ongoing assessment, Clemson hosted vendor demonstrations for Microsoft Copilot in early 2024, offering faculty and staff the opportunity to explore how generative AI could be integrated into their workflows. By ensuring AI adoption is guided by measurable engagement and faculty input, Clemson remains responsive to user needs while maintaining fiscal responsibility. This approach demonstrates how large research institutions can leverage their scale and infrastructure to conduct meaningful AI tool evaluations before making financial commitments.

In contrast, Wake Forest University, a mid-sized private institution, takes a phased approach to AI adoption, ensuring that any new tool undergoes rigorous assessment before fully integrating into campus operations. The university's first AI trial began in the Spring of 2022 when the Z. Smith Reynolds Library piloted Scite.ai over the course of a semester. Faculty and students were invited to participate in structured testing, which included vendor demonstrations, blog-based functionality reviews, and user surveys. Based on the positive reception, Wake Forest began licensing Scite.ai as a research support tool.

However, not all trials lead to adoption. In Spring 2024, Wake Forest conducted a semester-long trial of Elicit.com, an AI-powered research assistant. Initially, the tool was available under a credit-based model, allowing users to spend credits on specific AI-assisted tasks. However, midway through the trial, the vendor shifted to a subscription model, altering the financial and logistical calculus for institutional licensing. This experience underscores the possible challenges that mid-sized institutions face when negotiating with AI vendors, where pricing and functionality changes can impact procurement decisions.

At a smaller institution like Goldey-Beacom College, the library plays a central role in managing AI trials and selecting tools that align with curricular needs. Since 2019, the library has systematically evaluated AI tools with a focus on student learning outcomes, ensuring that any adoption serves a pedagogical purpose. Early experiments with AI began with Yewno Discover, an AI-powered research tool that was later discontinued, followed by institution-wide licenses for Grammarly and Scholarcy, both of which have proven essential for writing support.

In Spring 2024, the library introduced ImageFX, a generative AI tool, as part of a first-year English composition assignment on visual expression and ethical AI use. Unlike larger institutions that might conduct AI trials through paid enterprise solutions, Goldey-Beacom's decision to rely on the free version of ImageFX was deliberate, ensuring that students had equal access to the tool without financial barriers. Faculty noted increased student engagement, with learners more eager to experiment with AI-driven image generation when given structured opportunities to explore its capabilities.

While Scite.ai and Litmaps have been widely adopted among research-oriented students, some AI tools have shown limitations, particularly in humanities fields. Scholarcy, which excels at summarizing structured scientific papers, struggles with unstructured humanities texts, making it less useful for literature and history students. This reality highlights the ongoing challenge of ensuring AI tools cater to diverse academic disciplines and learning styles.

Taken together, these institutional approaches illustrate that AI trials must be tailored to the needs and constraints of each academic environment. Large research universities can rely on extensive data analytics and faculty buy-in to guide adoption, while mid-sized institutions may need to remain agile in response to shifting vendor practices. Meanwhile, smaller colleges must take a hands-on, pedagogically driven approach, ensuring that AI tools support student learning rather than just technological advancement.

Regardless of institutional size, successful AI trials share several key characteristics. First, they are structured and data-informed, with clear success metrics in place before the trial begins. Second, they engage multiple stakeholders, including faculty, students, IT staff, and librarians, to ensure broad-based support. Third, they anticipate vendor-driven pricing and functionality changes, recognizing that AI tools are still evolving rapidly. Finally, they prioritize accessibility and inclusion, ensuring that AI tools enhance learning for all students rather than creating additional barriers.

By implementing structured and adaptable AI trials, academic libraries can make informed, strategic decisions that align with institutional goals, pedagogical priorities, and financial realities. This iterative approach ensures that AI adoption is not just reactive but intentional—designed to support both current and future academic needs.

Data collection and privacy

As academic libraries adopt generative AI tools, data collection and privacy considerations take center stage. AI tools generate and process vast amounts of data, including user interactions, search queries, and generated content. While data collection can provide valuable insights into tool effectiveness, it also raises concerns about user privacy, data security, and institutional compliance with regulations such as FERPA (Family Educational Rights and Privacy Act) in the U.S. and GDPR (General Data Protection Regulation) in Europe.

For libraries, the challenge lies in balancing the need for analytics—which can inform decision-making and improve AI integration—with the responsibility to protect users from potential risks, including data breaches, third-party tracking, and unethical AI-driven profiling. This balance is approached differently depending on the institutional size, infrastructure, and level of administrative control over AI adoption.

At Clemson University, data-driven decision-making is central to AI adoption. As part of its institutional AI strategy, Clemson Libraries actively monitors user engagement with licensed AI tools to assess their impact on teaching and research. During the first year of its Scite.ai subscription, the library reviewed usage statistics and found that 40% of users were graduate students, with the highest engagement levels coming from departments such as Psychology, Automotive Engineering, Business Administration, and Wildlife and Fisheries Biology. These insights were instrumental in guiding outreach efforts, allowing the library to tailor AI-related instructional support to disciplines where demand was highest.

However, while everyone benefits from robust internal analytics, some AI tools do not provide libraries with direct access to individual usage statistics, making it difficult to assess adoption beyond anecdotal feedback. This underscores a key challenge for large institutions: while data-informed decision-making is ideal, access to meaningful usage data is often controlled by vendors rather than institutions themselves. Without clear data-sharing agreements, universities may struggle to measure engagement and effectiveness, making long-term licensing decisions more complex.

At Wake Forest University, a mid-sized private institution, data privacy concerns have played a crucial role in shaping AI adoption strategies. While Wake Forest has experimented with AI tools such as Scite.ai and Elicit, institutional privacy policies require IT security assessments before committing to any AI service that collects user data.

During the Elicit trial, university IT staff conducted a security audit, examining the platform's data retention policies, encryption standards, and compliance with institutional guidelines. Additionally, the Technology Accessibility Team reviewed Elicit's usability for students with disabilities, ensuring that AI adoption did not create unintended barriers.

Many AI tools are built on commercial, consumer-facing models, where privacy policies prioritize vendor needs over institutional requirements, which is a growing challenge. As a result, academic libraries must carefully negotiate data-sharing agreements to ensure compliance with campus privacy policies before proceeding with full adoption.

At Goldey-Beacom College, a small institution where the library manages AI tool procurement independently from IT, data collection strategies must be carefully

structured to balance privacy, institutional assessment, and student trust. Because AI adoption is library-led, privacy compliance is embedded directly into licensing decisions, ensuring that any tool used on campus aligns with ethical data management practices.

For tools such as Scite.ai, Litmaps, Grammarly, and Scholarcy, the library relies on vendors to provide anonymized usage reports rather than individual user tracking. These reports allow the library to assess the tools most widely used without exposing personally identifiable information (PII). However, some tools, particularly free AI services, lack transparent data policies, creating additional challenges for institutions that wish to integrate them responsibly.

Goldey-Beacom's experience with ImageFX, a free generative AI image tool, highlights these challenges. While the tool was useful for a first-year English composition visual expression assignment, the lack of clear data retention policies meant the library had to limit its use to a low-risk, non-sensitive project. Unlike licensed tools with defined privacy protections, free generative AI services often collect unstructured user data, which can be used for purposes beyond the institution's control.

Across all institutions, one thing is clear: the need for greater transparency in AI data policies. Whether in large, mid-sized, or small institutions, libraries must advocate for clear, legally compliant data-sharing agreements that prioritize student privacy, informed consent, and ethical data usage.

Navigating the future of AI data collection in libraries

Despite these challenges, data-driven AI adoption in academic libraries remains an essential component of strategic decision-making. Moving forward, institutions should consider the following best practices:

- **Clarify Data Collection Policies** – Before adopting AI tools, institutions should conduct privacy and security assessments to understand how user data is stored, processed, and shared.
- **Advocate for Transparent Vendor Agreements** – Libraries should push vendors to provide clear, anonymized usage reports rather than opaque, proprietary analytics.
- **Educate Faculty and Students on Privacy Risks** – AI literacy initiatives should include discussions on data ethics, helping users make informed choices about their interactions with AI tools.
- **Prioritize Compliance with Institutional Privacy Policies** – Universities should ensure that all AI tools align with FERPA, GDPR, and campus-specific data security regulations.
- **Develop Institutional Guidelines for AI Use** – Establishing a campus-wide AI governance framework can help ensure responsible, ethical AI adoption that balances innovation with privacy protection.

By approaching AI data collection through a structured, privacy-first lens, academic libraries can support AI adoption while safeguarding user rights and institutional integrity. Libraries of all sizes—whether operating within a large research university, a mid-

sized private institution, or a small, library-driven college—must take an active role in shaping AI policies that ensure both transparency and accountability in data management.

Accessibility and inclusivity

As academic libraries integrate generative AI tools into teaching, research, and student support services, ensuring accessibility and inclusivity is essential. AI tools have the potential to enhance learning experiences for diverse student populations, including those with disabilities, non-native English speakers, and neurodivergent learners. However, without careful evaluation, these tools can also introduce new barriers, such as biases in AI-generated content, lack of screen reader compatibility, and limitations in language support.

The challenge for academic libraries is twofold: first, to identify and advocate for AI tools that enhance accessibility, and second, to address the biases and inclusivity gaps that AI tools may inadvertently introduce. While large research universities may have dedicated accessibility teams to conduct in-depth evaluations, smaller institutions often rely on library-led assessments to ensure tools align with inclusive learning principles.

At Clemson University, accessibility is a key factor in AI adoption decisions, particularly when evaluating tools for institution-wide licensing. The university collaborates with its Technology Accessibility Office to assess whether AI tools meet Americans with Disabilities Act (ADA) compliance standards, including compatibility with screen readers and alternative input methods.

When evaluating AI tools like Scite.ai and Microsoft Copilot, Clemson's accessibility specialists identified several common barriers:

- Many AI platforms are optimized for visual interaction, making them less effective for students who rely on text-to-speech or Braille displays.
- Some Gen AI tools focus on certain disciplines, which can unintentionally affect others; securing access to multiple tools can help address coverage gaps.

To mitigate these challenges, Clemson requires vendors to demonstrate accessibility features before licensing decisions are made. Additionally, the library works closely with faculty to ensure that AI-driven tools complement, rather than replace, traditional accessibility resources such as human-assisted tutoring and alternative text formats.

It is important in AI adoption to incorporate discussions on algorithmic bias and representation into faculty training sessions and student workshops. AI can disproportionately surface male-authored research and overlooked scholars from underrepresented backgrounds. Similar concerns have been noted with ChatGPT, where AI-generated responses sometimes misrepresented historical events or provided stereotyped summaries of academic topics.

Recognizing that AI bias is not a flaw unique to any one tool but a broader issue in machine learning, libraries need to prioritize AI literacy training as a key component of accessibility. Faculty and students are encouraged to approach AI tools with critical awareness, cross-checking AI-generated content against established academic sources.

Libraries can collaborate with campus diversity or inclusion offices to develop guidelines for inclusive AI use, ensuring that faculty consider equity and representation when integrating AI into coursework.

At Goldey-Beacom College, where the library leads AI adoption efforts, accessibility considerations focus on practical implementation—ensuring students can effectively use AI tools without requiring advanced technical skills. One of the most impactful AI tools for accessibility at Goldey-Beacom has been Scholarcy, a summarization tool that simplifies academic articles into digestible key points.

Scholarcy has been particularly beneficial for neurodivergent students, including those with ADHD and autism, who often benefit from structured, concise content rather than lengthy, complex readings. Features such as flashcard-style summaries and the “Dig Deeper” function, which allows students to explore key ideas at their own pace, have made Scholarcy an effective tool for supporting executive functioning challenges.

However, Goldey-Beacom’s experience has also highlighted ongoing limitations in AI accessibility. Despite its benefits, Scholarcy—and many similar AI tools—struggles with unstructured content, such as book chapters and humanities-based texts, which are not always formatted for AI-driven analysis. This means that while AI tools can enhance accessibility in some contexts, they must be supplemented with traditional research support, librarian assistance, and human-designed study strategies.

Addressing bias and ensuring inclusive AI adoption

While AI tools offer innovative solutions for accessibility, libraries must also proactively address biases and barriers to ensure inclusive adoption. Key strategies include:

- Conducting Accessibility Audits Before Adoption – Libraries should evaluate AI tools for screen reader compatibility, alternative text options, and multilingual support before full implementation.
- Training Students and Faculty on AI Bias – AI literacy programs should go beyond functionality to include discussions on bias detection, content verification, and ethical AI use.
- Collaborating with Campus Accessibility Offices – Institutions should work with campus groups to integrate AI tools in a way that enhances teaching and learning activities rather than merely providing access to new tools.
- Advocating for AI Tool Improvements – Libraries should provide direct feedback to vendors, pushing for updates that improve inclusivity, accessibility features, and representation in AI-generated content.

By taking a proactive approach to both accessibility and bias mitigation, academic libraries can ensure that AI tools empower all students, rather than creating new barriers. Whether at a large research university with dedicated accessibility teams, a mid-sized institution focusing on bias awareness and critical AI engagement, or a small college ensuring practical usability, libraries play a critical role in shaping an equitable AI landscape.

Authentication and integration

As academic libraries integrate generative AI tools, ensuring seamless authentication and integration is critical for user accessibility, security, and institutional data control. Libraries must balance ease of access with data privacy considerations, ensuring that AI tools are integrated in a way that facilitates student and faculty adoption without compromising institutional security.

The complexity of authentication varies by institution. Large research universities often rely on centralized IT authentication systems, while mid-sized universities balance IT oversight with library-driven access models. Smaller colleges may take a more hands-on approach, managing authentication directly through the library, often without dedicated IT department involvement in AI tool integration.

At Clemson University, authentication for AI tools is tightly integrated with the university's broader IT infrastructure. Clemson Libraries collaborated with IT to implement a hybrid authentication system for Scite.ai, allowing users to authenticate via IP-based access on campus and university email logins for remote access. This dual approach ensures ease of use while maintaining institutional security policies.

At Wake Forest University, a mid-sized private institution, authentication strategies emphasize flexibility and security to accommodate users across multiple campuses, including study abroad programs and regional locations.

To provide seamless access to AI tools like Scite.ai, Wake Forest employs a multi-method authentication model:

- IP Authentication for automatic campus access.
- VPN Access for remote users needing a secure connection.
- University Email-Based Logins for users preferring individual accounts linked to institutional credentials.

At Goldey-Beacom College, a small institution where the library independently manages AI tool authentication, ease of access is prioritized while maintaining institutional security and compliance.

Goldey-Beacom uses OpenAthens for Grammarly, allowing users to authenticate through a single sign-on (SSO) experience with their institutional credentials. However, for Litmaps, Scite.ai, and Scholarcy, the college uses IP authentication and whitelists the gbc.edu domain, providing institution-wide access without requiring individual user logins.

While this approach simplifies access for students and faculty, it also presents challenges in tracking individual engagement and measuring tool effectiveness. Because AI tools like Litmaps, Scite.ai, and Scholarcy do not support OpenAthens, authentication is managed through vendor-side whitelisting and IP-based controls, limiting the library's ability to gather user-specific usage data.

Additionally, LMS integration remains a challenge. None of the AI tools currently adopted at Goldey-Beacom—including Grammarly, Scite.ai, Scholarcy, and Litmaps—are LTI 1.3 compliant, meaning they cannot be directly embedded into Canvas, Blackboard, or Moodle. This forces users to navigate outside the LMS to access AI tools, creating additional steps that may discourage adoption.

Ensuring seamless AI authentication and integration

To optimize authentication and integration for AI tools, libraries should adopt the following best practices:

- Leverage Single Sign-On (SSO) When Possible – AI tools should support SSO authentication methods like OpenAthens or Shibboleth to reduce login barriers.
- Ensure Flexible Authentication Methods – AI vendors should provide multiple access options, including IP authentication, VPN compatibility, and email-based login, to accommodate diverse user needs.
- Negotiate for Institutional Data Access – Libraries should advocate for transparency in vendor-controlled authentication, ensuring they retain administrative oversight of user access and engagement metrics.
- Push for LMS Integration – AI vendors should prioritize LTI compliance, allowing tools to be embedded directly into learning management systems to streamline faculty and student workflows.
- Provide Clear User Support – Institutions should develop authentication guides and training materials to help students and faculty navigate AI tool access efficiently.

As AI adoption in academic libraries grows, authentication models must evolve to ensure secure, frictionless access across different types of institutions. Whether at a large research university with IT-managed authentication, a mid-sized institution balancing security and flexibility, or a small college relying on library-led authentication, libraries play a vital role in shaping the accessibility, security, and usability of AI tools.

Usage statistics and analytics

As academic libraries integrate generative AI tools, tracking usage statistics and analytics becomes critical for measuring impact, assessing adoption rates, and refining support strategies. AI tools provide a wealth of potential insights, but data availability varies widely depending on vendor policies, authentication models, and institutional infrastructure. Large research universities often have access to robust data dashboards, mid-sized institutions may struggle with vendor-imposed data restrictions, and smaller colleges frequently rely on manual tracking methods to evaluate AI tool effectiveness.

A major challenge in AI adoption is that many AI vendors do not provide institutions with granular usage data, particularly when tools are integrated into larger enterprise platforms. Libraries must advocate for better access to engagement metrics to ensure that AI adoption decisions are guided by real data rather than assumptions.

At Clemson University, usage tracking plays a central role in evaluating AI tool effectiveness. When the university piloted Scite.ai in 2023, Clemson Libraries monitored detailed user engagement analytics, including:

- Total searches conducted
- Number of citation report views
- Breakdown of user types (faculty, graduate students, undergraduates)

Through this analysis, the university found that 40% of Scite users were graduate students, 35% were undergraduates, and 25% were faculty and staff. These insights informed the university's decision to license Scite.ai for the 2023–2024 academic year, ensuring that AI adoption aligned with demonstrated research needs.

At Wake Forest University, usage analytics are gathered through a combination of automated tracking and user surveys. During the Scite.ai and Elicit.com trials, Wake Forest librarians collected feedback through:

- Google Forms for anonymous faculty and student input
- Direct engagement metrics provided by vendors
- Library-led focus groups to assess AI tool effectiveness

Despite these efforts, data limitations remain a concern. While Scite provided institutional access to engagement metrics via a specific URL, Elicit summarized metrics during monthly update meetings.

At Goldey-Beacom College, where the library independently manages AI tool adoption, tracking usage requires a flexible, hands-on approach. Because the college's AI tools—Grammarly, Scite.ai, Scholarcy, and Litmaps—do not all provide detailed usage dashboards, the library relies on a combination of:

- Vendor-provided CSV usage reports (Scite.ai, Litmaps, Scholarcy)
- Manual tracking of faculty requests for AI integration support
- Student feedback collected through library workshops and course collaborations

For tools like ImageFX, which was used in a first-year English composition assignment, tracking engagement was even more challenging, as the free version does not provide institutional analytics. Instead, the library relied on qualitative feedback from faculty and students, which revealed strong interest in AI-enhanced creative assignments but also concerns about ethical AI use in visual storytelling.

A significant challenge at Goldey-Beacom is that without SSO authentication for most AI tools (except Grammarly), user-specific engagement data is not available. While IP-based authentication ensures broad access, it prevents the library from tracking individual usage patterns, limiting the ability to tailor support services to specific student needs.

Leveraging analytics for continuous AI adoption improvements

To ensure that AI adoption remains data-driven and strategic, academic libraries should consider the following best practices:

- **Negotiate for Better Vendor Data Access** – Institutions should advocate for AI vendors to provide anonymized usage dashboards that allow libraries to track engagement while maintaining user privacy.
- **Develop Internal Benchmarks for AI Adoption** – Where comparative institutional data is lacking, libraries can create custom AI usage benchmarks by tracking semester-over-semester trends in student engagement.

- Use Surveys and Focus Groups for Qualitative Insights – When vendor data is insufficient, libraries should conduct faculty and student surveys to assess AI tool effectiveness.
- Monitor Cross-Institutional AI Adoption Trends – Comparing internal data with reports from organizations like EDUCAUSE, Ithaka S + R, and ACRL can provide a broader context for evaluating AI implementation.
- Refine AI Training and Support Based on Usage Trends – Data insights should inform library workshops, faculty collaborations, and AI literacy programming to ensure that training efforts are targeted to areas of greatest need.

By implementing these strategies, academic libraries—whether at large universities with extensive analytics infrastructure, mid-sized institutions with data access constraints, or small colleges relying on hands-on tracking methods—can ensure that AI adoption is grounded in real engagement data rather than speculative assumptions.

Training the workforce to use AI tools

As generative AI becomes an integral part of higher education, faculty, staff, and students must develop the skills necessary to use these tools effectively. Training efforts in academic libraries must strike a balance between technical proficiency, critical engagement, and ethical considerations, ensuring that AI adoption enhances teaching, research, and academic workflows.

The structure of AI training varies across institutions. Large research universities often have dedicated faculty development centers that lead AI training initiatives in collaboration with the library. Mid-sized universities may rely on a mix of library-driven workshops and cross-campus collaborations, while smaller colleges often take a library-led, hands-on approach, embedding AI training into specific courses and faculty partnerships.

Clemson University: scalable, multi-departmental AI training

At Clemson University, AI training efforts are distributed across multiple units, including the Office of Teaching Effectiveness and Innovation (OTEI), the Center for Career and Professional Development (CCPD), and the University Libraries. Each of these groups plays a distinct role in supporting AI literacy:

- OTEI focuses on faculty training, developing AI policy statements that professors can integrate into their syllabi.
- CCPD offers student workshops that emphasize AI's role in career preparation, covering topics such as resume-building with AI and AI-driven job search strategies.
- University Libraries curate AI research guides and instructional resources, ensuring that students and faculty have access to structured, vetted materials. Examples of training resources include: AI in the Classroom and 10 Step AI Challenge.

A key initiative at Clemson was the “Teaching in the Age of AI” Conference (January 2024) led by OTEI, which brought together 180+ educators to discuss best practices for integrating AI into pedagogy. Additionally, the university is collaborating on an AAC&U AI Institute, where faculty explore discipline-specific AI applications for higher education. By taking a decentralized yet coordinated approach, Clemson ensures that AI training is both scalable and tailored to the needs of different campus populations.

Wake Forest University: multi-faceted approach to AI training

At Wake Forest University, the Center for Advancement of Teaching played a central role in developing workshops, institutes, and peer-to-peer learning sessions for faculty. The library offered touch points for faculty to engage with AI tools. The IS department coordinated the “AI for Good” conference for students. Efforts from all three departments focused on offering the following:

- Faculty workshops on generative AI functionality, pedagogy, and biases.
- Peer-to-peer session where faculty from various departments shared how they used AI in their research and classes
- Institutes and conferences for individuals incorporating multiple perspectives and proficiency levels

By embedding AI training into different initiatives, Wake Forest ensures that AI adoption is thoughtful and pedagogically sound.

Goldey-Beacom College: a library-led, course-embedded approach

At Goldey-Beacom College, where the library independently manages AI tool adoption, training efforts focus on integrating AI tools directly into coursework rather than offering standalone workshops.

The library has taken a targeted approach by:

- Embedding AI literacy training into first-year composition classes, ensuring that students learn prompt engineering, ethical AI use, and research integration from their first semester.
- Providing concise faculty training sessions, where librarians introduce Grammarly, Scite.ai, Scholarcy, and Litmaps as instructional tools.
- Partnering with department chairs to scale AI adoption gradually, ensuring that AI tools align with course-level learning objectives rather than being adopted haphazardly.

A key success was the Spring 2024 implementation of AI tools in first-year English composition courses, where students used ImageFX for visual storytelling, Litmaps for citation mapping, and Scholarcy for article summarization. Faculty feedback indicated that structured AI training helped students engage more critically with generative AI rather than relying on it passively.

Because Goldey-Beacom has limited faculty bandwidth for AI training, the library prioritizes short, high-impact sessions rather than prolonged training programs. This ensures that AI literacy is scalable within a small institution without overburdening faculty.

Building sustainable AI training programs in libraries

To ensure that AI training is effective, scalable, and responsive to institutional needs, libraries should consider the following best practices:

- Offer Tiered Training Programs – Provide basic AI literacy sessions for beginners, advanced workshops for faculty, and hands-on applications for students.
- Integrate AI into Existing Instructional Support – AI training should not be an isolated initiative but embedded into information literacy instruction, faculty workshops, and curriculum design.
- Address Ethical and Critical AI Literacy – AI training must include discussions on bias, misinformation, ethical AI use, and responsible prompting to ensure that users engage critically with these tools.
- Develop AI Resource Guides and Self-Paced Training – Not all users will attend workshops, so providing asynchronous resources, such as AI research guides and tutorial videos, allows for on-demand learning.
- Leverage Faculty Champions – Encouraging early faculty adopters to serve as peer mentors can help spread AI literacy without over-relying on library staff.

Institutional AI training strategies must be scalable and adaptable

Whether at a large research university with faculty development centers, a mid-sized university emphasizing discipline-specific AI integration, or a small college embedding AI into individual courses, academic libraries play a crucial role in ensuring that AI training is accessible, practical, and ethically informed.

By taking a strategic, adaptable approach, libraries can equip faculty, staff, and students with the skills needed to harness AI's potential responsibly—enhancing research, teaching, and learning while mitigating its risks.

Ethical considerations

Ethical considerations become central to responsible adoption as academic libraries integrate generative AI tools. While powerful, AI technologies introduce complex challenges related to bias, fairness, transparency, accountability, and their impact on teaching, learning, and research. Libraries must take a leadership role in ensuring that AI is used equitably, ethically, and in alignment with institutional values.

Ethical concerns surrounding AI adoption differ based on institutional size and governance structures. Large research universities typically have formal AI ethics policies and institutional review processes, while mid-sized institutions may approach AI ethics through faculty development initiatives and research collaborations. Smaller colleges, where AI adoption is often library-led, tend to focus on practical ethical training and student awareness.

Clemson University: AI ethics and guidelines

At Clemson University, responsible and ethical use of AI is a priority and it is integrated into the educational and training activities. Specific examples include:

- Collaborating with faculty on ethical guidelines for the proper use of AI in teaching and learning activities. This collaboration includes providing suggested syllabi statements on the use of AI for teaching and learning activities.
- Incorporating AI ethics content into resource guides and Canvas modules, especially for topics like proper use of copyrighted materials in combination with AI-generated content and considerations for time-consuming tasks and the environmental impact of computing power.
- Developing and offering workshops that address the responsible and ethical use of AI. These workshops include discussions on recent acceptable and controversial case studies, guiding conversations, and reflections on ethical practices for faculty and students.

Through these initiatives, Clemson University aims to foster a culture of ethical AI use among students and faculty.

Wake Forest University: addressing AI bias and critical engagement

At Wake Forest University, the focus is on critical AI literacy and bias awareness, ensuring that students and faculty can identify and mitigate algorithmic biases in their research and teaching.

As part of its AI literacy initiatives, the Z. Smith Reynolds Library integrates discussions of bias and misinformation into their LIB100 courses and one-shots. Recognizing that AI-generated content is not neutral, librarians teach students how to cross-check AI-generated summaries, citations, and insights against traditional academic sources. In a newly developed LIB290 course “Integrating AI tools into the research process,” students are introduced to different AI tools and taught to use them responsibly. By embedding AI ethics into information literacy instruction, the library promotes responsible AI use across disciplines.

Goldey-Beacom College: practical AI ethics training for students and faculty

At Goldey-Beacom College, where AI adoption is managed at the library level, ethical AI use is approached through practical, hands-on training for students and faculty. Rather than relying on broad institutional policies, the library integrates AI ethics discussions into classroom assignments and student workshops.

A notable example is the first-year English composition course, where students use ImageFX for visual storytelling while also learning about bias in AI-generated imagery. In this course, students analyze how AI tools reinforce stereotypes and discuss strategies for prompting AI responsibly to create more diverse and representative outputs.

At GBC, the integration of AI into academic learning is guided by principles of ethical AI literacy, faculty autonomy, and student agency. Rather than enforcing a rigid AI

policy, GBC embraces a flexible, human-centered approach that allows faculty to determine how AI is integrated into their courses. Faculty members have the discretion to incorporate AI tools such as Grammarly, Scholarcy, and Litmaps into their teaching methodologies or opt-out entirely, ensuring that pedagogical decisions align with their instructional philosophies and subject matter needs. This model fosters a collaborative rather than prescriptive relationship between faculty and AI integration, addressing concerns about academic integrity, intellectual autonomy, and disciplinary relevance.

Students at GBC also maintain significant agency in navigating AI within their coursework. Recognizing that AI-generated outputs may not suit all learning preferences or ethical perspectives, the college allows students to request alternative assignments that do not require AI usage. This ensures that students who prefer traditional research and writing methods can fully participate in coursework without feeling pressured to use AI tools. The institution's AI literacy framework emphasizes critical engagement, transparency, and ethical considerations, guiding students to assess AI-generated content for bias, credibility, and contextual appropriateness. By positioning AI as an optional yet valuable component of academic inquiry, GBC fosters an environment where students and faculty critically engage with technology while preserving intellectual freedom and disciplinary integrity.

Building ethical AI frameworks in libraries

Additionally, the library ensures that AI ethics is embedded into tool-specific training:

- Grammarly – Discussing the limitations of AI-driven writing assistance, including how algorithmic grammar suggestions may reinforce dominant language norms.
- Scholarcy – Teaching students to recognize that AI-generated summaries prioritize certain aspects of a text while omitting others, requiring critical engagement with full-length sources.
- Litmaps and Scite.ai – Highlighting how AI-powered citation analysis can exclude humanities sources or reinforce existing citation patterns, limiting exposure to nontraditional research.

By taking a practical, embedded approach, Goldey-Beacom ensures that ethical AI considerations are not theoretical but directly connected to students' academic experiences.

AI ethics and the environment

Beyond bias and transparency, another emerging ethical concern in AI adoption is its environmental impact. Large-scale AI models, such as GPT-based systems, require massive computational resources, consuming significant amounts of energy. This raises questions about:

- Sustainability – How can academic institutions balance AI adoption with environmental responsibility?

- Ethical Resource Allocation – Should universities prioritize AI tools that have a lower carbon footprint?
- Institutional Advocacy – Can libraries push vendors to disclose AI energy consumption and develop more sustainable AI solutions?

Clemson, Wake Forest, and Goldey-Beacom are all beginning to grapple with AI's environmental footprint, though specific institutional strategies are still in development.

Building ethical AI frameworks in libraries

To ensure ethical AI adoption, libraries must take an active role in shaping AI policies and training programs. Key strategies include:

- Developing Institutional AI Ethics Guidelines – Establishing clear policies on AI transparency, bias mitigation, and data privacy.
- Embedding AI Ethics into Faculty and Student Training – Teaching critical AI literacy skills, including how to evaluate bias, misinformation, and ethical concerns in AI-generated content.
- Advocating for Vendor Accountability – Negotiating for greater transparency in AI decision-making processes and pushing for equitable representation in AI training data.
- Addressing AI's Environmental Impact – Encouraging institutions to consider sustainability in AI procurement decisions and advocate for eco-friendly AI research initiatives.

By fostering a culture of critical AI engagement, libraries can ensure that AI tools enhance, rather than undermine, academic integrity, fairness, and inclusivity.

Ethical AI adoption requires active engagement

Whether through formal AI governance structures at a large university, faculty development at a mid-sized institution, or course-embedded ethical training at a small college, libraries play a key role in ensuring that AI adoption is responsible, transparent, and equitable.

AI ethics is not a one-time policy discussion but an ongoing institutional commitment. As AI technologies continue to evolve, academic libraries must remain vigilant, proactive, and student-focused, ensuring that AI serves as a tool for empowering learning rather than reinforcing inequities.

Conclusion

Adopting AI tools in academic settings requires a balanced approach that prioritizes ethical considerations, pedagogical flexibility, and user agency. Gen AI is already embedded in much of what we do. As stated in a report by The Chronicle, higher education institutions have a crucial role in preparing students for a future with AI (Aoun, 2024). This involves not only teaching technical skills but also fostering an understanding of AI's broader impacts on society and advancing human well-being in a digital world. Thus, key factors for libraries to consider as they continue to support and lead

AI education and training include ensuring transparency in AI-generated outputs, addressing biases, and providing students and faculty with the necessary training to engage with AI tools critically. Goldey-Beacom College's model highlights the importance of integrating AI ethics into coursework rather than relying solely on broad institutional policies. By allowing faculty discretion and student choice, the institution fosters a responsible AI culture that aligns with academic values and disciplinary needs.

Recommendations for implementation

For successful adoption and long-term integration of AI tools, institutions should:

- Embed AI ethics discussions into coursework and student training sessions.
- Provide faculty with the flexibility to integrate AI tools based on their instructional needs.
- Offer students alternative assignments to maintain inclusivity and accommodate diverse learning preferences.
- Develop an AI literacy framework that promotes critical engagement, bias awareness, and ethical decision-making.
- Continuously assess AI tool effectiveness and user experiences to refine integration strategies.

By taking these steps, academic institutions can ensure that AI adoption enhances learning while upholding principles of academic integrity, intellectual freedom, and ethical responsibility.

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