Evidence Based Journal of Information Science
Volume 1, Issue 2, December, 2025
ISSN: 1595-6148
https://journals.kasu.edu.ng/index.php/lib

PROBLEMS AND PROSPECTS OF FOSTERING A RESEARCH-ORIENTED READING CULTURE THROUGH ARTIFICIAL INTELLIGENCE: A CONCEPTUAL REVIEW

Yusuf, Muhammad
University Library, Bayero University Kano,
ymuhammad.lib@buk.edu.ng
+2348100116777

Nura Muhammad Lawan
University Library, Yusuf Maitama Sule,
Federal University of Education, Kano
nura699@gmail.com
+234-8034013250

Abstract

The emergence of Artificial Intelligence (AI) particularly generative AI and large language models (LLMs) has fundamentally reshaped how knowledge is acquired, managed, and disseminated. This conceptual review critically examines the dualistic role of AI in fostering a research-oriented reading culture. It investigates persistent barriers to cultivating deep reading habits among scholars and students. At the same time, it analyzes the transformative opportunities that AI-powered tools offer for enhancing engagement, comprehension, and knowledge synthesis. Synthesizing contemporary literature, the paper acknowledges that AI provides powerful affordances. It can mitigate information overload and personalize learning. However, its integration requires careful pedagogical and ethical consideration. Without this, AI risks undermining the very critical thinking skills that research-oriented reading aims to develop. Tools for summarization, discovery, and dialogic interaction present unprecedented prospects for researcher engagement. Yet these same tools can also erode the deep reading they are meant to serve. Consequently, the paper argues that the central challenge lies not in technological adoption, but in pedagogical integration. The goal must be to design practices that use AI not as a substitute for intellectual labor, but as a catalyst for more rigorous and reflective scholarship.

Keywords: *Artificial Intelligence, Critical Thinking, Deep Reading, Digital Literacy, Research-Oriented Reading Culture,*

Received: October 15, 2025. Accepted: December 16, 2025

Introduction

A robust reading culture is the bedrock of intellectual development and a prerequisite for scholarly innovation. In academic contexts, reading transcends passive consumption; it is an active, critical process essential for knowledge construction, theoretical engagement, and research productivity. However, the digital age, characterized by the deluge of information and incessant competing stimuli, has profoundly challenged the sustenance of deep, sustained reading practices (Wolf and Barzillai, 2023). Empirical evidence points to a marked decline in such habits; for instance, a large-scale study of university students found that over 75% now predominantly engage in "skimming" or non-linear reading of digital texts, with a corresponding decrease in focused, deep reading sessions (Barshay, 2023). Similarly, research indicates a 40% drop in sustained attention spans for complex texts over the past two decades, correlating strongly with increased digital multitasking (Gazzaley and Rosen, 2024). The recent advent of sophisticated Artificial Intelligence (AI), including generative models like GPT-4 and Claude, presents a pivotal inflection point in this context. This paper provides a conceptual review of the problems and prospects of leveraging AI to foster a sustainable, research-oriented reading culture, exploring both its potential as a facilitative tool and its inherent risks.

Conceptual Clarifications

Research-Oriented Reading Culture refers to a disciplined and critical engagement with scholarly materials aimed at synthesizing existing knowledge, identifying research gaps, and generating novel insights. It involves deep reading, critical appraisal, and reflective note-taking (Baron, 2021). This culture is cultivated through practices such as manually tracing citation networks to understand a field's evolution, writing annotated bibliographies that critically compare sources,

Received: October 15, 2025. Accepted: December 16, 2025

and engaging in reflective journaling to interrogate one's own understanding of complex arguments.

Artificial Intelligence (AI) in Academia involves the application of machine learning, natural language processing, and large language models to perform complex academic tasks (Dwivedi et al., 2023). This extends beyond theoretical definitions to practical implementations. For instance, tools like **Elicit** and **Consensus** use semantic search to locate papers based on research questions rather than keywords. **Scholarcy** and **SciSpace Copilot** provide automated summarization and on-demand explanations of dense academic content. Additionally, intelligent recommendation systems in platforms like **Connected Papers** map research landscapes visually, while generative AI tools such as **ChatGPT** can assist in drafting literature reviews or simulating critical dialogue about scholarly texts. These applications demonstrate how AI is actively reshaping research workflows.

Theoretical Foundations

This review is grounded in two interconnected theoretical frameworks that collectively provide a comprehensive lens for examining the relationship between artificial intelligence (AI) and the research-oriented reading culture.

First, **Constructivist Learning Theory** posits that learners actively construct knowledge through experience and reflection. In this context, AI can act as a cognitive support, personalizing information discovery and facilitating the construction of mental models by connecting disparate ideas (Ifenthaler and Schiffarth, 2023). However, this constructive potential can only be realized if researchers are willing and able to adopt these tools. This is where the second framework becomes essential. **The Technology Acceptance Model (TAM)** explains that the adoption of AI

Received: October 15, 2025. Accepted: December 16, 2025

tools is contingent on their perceived usefulness and ease of use (Al-Emran et al., 2023). For seamless integration into research workflows, AI must demonstrably enhance efficiency without adding cognitive load or compromising scholarly rigor.

These models interact dynamically in this study. Constructivist theory provides the pedagogical objective: using AI to foster deeper knowledge construction. TAM provides the practical precondition: identifying whether and why these tools are adopted by scholars. In essence, TAM helps explain the feasibility and barriers to implementing the AI-supported constructivist processes that are central to cultivating a research-oriented reading culture. A tool may be constructively powerful in theory, but if scholars do not find it useful or easy to use (per TAM), its potential to support deep learning remains unrealized. Thus, the frameworks together allow for a holistic analysis that considers both the ideal learning outcomes and the practical realities of technology integration in academic settings.

Methodology

This study employed a conceptual review methodology to systematically synthesize and critically analyze literature on the intersection of AI and research-oriented reading culture. A targeted search was conducted across reputable databases including Scopus, Web of Science, SpringerLink, ScienceDirect, and Google Scholar using keywords such as “AI in academic reading,” “generative AI and research,” and “AI tools for knowledge synthesis.” Boolean operators were applied to refine results. To capture the most current discourse in this rapidly evolving field, the search was limited to publications from 2020–2025, a period that coincides with the transformative release of advanced generative AI and large language models (e.g., GPT-3). Foundational theoretical works published prior to 2020 were also included to provide necessary context.

Received: October 15, 2025. Accepted: December 16, 2025

The inclusion criteria required that sources explicitly address the potential or challenges of AI in fostering deep reading and research engagement, while non-scholarly, outdated, or irrelevant works were excluded. To ensure the quality of grey literature (e.g., technical reports, white papers), sources were evaluated based on the authority of the publishing organization, author expertise, and methodological transparency. The selected corpus was analyzed using qualitative content analysis, with open and axial coding applied to identify recurring themes—such as algorithmic bias, the digital divide, privacy concerns, adaptive learning, literature mapping, and AI-facilitated dialogue. This analysis was framed within the dual theoretical lenses of constructivist learning theory and the technology acceptance model (TAM), integrating pedagogical and technological perspectives. To ensure rigor, quality was maintained through the prioritization of peer-reviewed sources, deduplication of references, and triangulation of findings to minimize interpretive bias.

Problems in Fostering Research-Oriented Reading Culture with AI

Although AI offers promising solutions, its implementation simultaneously introduces and amplifies a range of complex challenges:

Algorithmic Bias and Epistemic Homophily: AI recommendation systems, trained on existing data, risk perpetuating historical biases and creating intellectual "filter bubbles." For example, a 2023 study of an AI literature discovery tool found it consistently underrepresented research from the Global South and women-led studies in STEM, reinforcing a narrow, Western-centric canon (Zhuo et al., 2023). This steers researchers toward dominant paradigms and away from marginalized or dissenting viewpoints, stifling innovative and critical scholarship (Noble, 2018).

Received: October 15, 2025. Accepted: December 16, 2025

Data Privacy and Intellectual Property: The use of AI tools often necessitates uploading sensitive research to third-party servers. This raises acute concerns, as seen in cases where proprietary datasets or pre-publication manuscripts were ingested without consent to train commercial models, leading to disputes over copyright and academic confidentiality (UNESCO, 2023). Such practices threaten researcher autonomy and the secure development of original work.

The Digital Divide 2.0: Access to the most advanced AI tools (e.g., GPT-4, Claude Pro) is frequently gated behind subscription paywalls. This creates a "Digital Divide 2.0," exacerbating existing inequalities. A 2024 survey highlighted that researchers at under-resourced institutions primarily rely on free, limited-tier AI, while counterparts at well-funded universities use premium tools for literature synthesis and analysis, potentially accelerating a gap in research productivity and quality (Xiao & Watson, 2024).

Prospects of AI in Enhancing Reading Culture

When carefully designed and integrated, AI can significantly enhance scholarly reading by directly addressing some of the key problems inherent in the digital research environment. These tools offer mechanisms to counteract information overload, personalize support, and democratize access to complex knowledge.

Prospects of AI in Enhancing Reading Culture

When carefully designed and integrated, AI can significantly enhance scholarly reading by directly addressing some of the key problems inherent in the digital research environment. These tools offer mechanisms to counteract information overload, personalize support, and democratize access to complex knowledge.

Received: October 15, 2025. Accepted: December 16, 2025

Intelligent Literature Mapping and Discovery: Tools like Elicit, Research Rabbit, and Scite use AI to map research landscapes, trace citation networks, and identify key papers and gaps. By moving beyond simple keyword search to semantic understanding, these tools can help mitigate algorithmic bias and epistemic homophily. A well-designed system can be prompted to specifically surface research from underrepresented regions or authors, intentionally broadening a researcher's literature review beyond dominant, algorithmically reinforced canons (van Dis et al., 2023).

Enhanced Comprehension and Accessibility: AI-powered tools (Scholarcy, ChatPDF) provide dynamic summaries, extract key claims, and explain complex concepts in simpler terms. This directly alleviates the cognitive burden of information overload, aiding comprehension of dense material. Furthermore, by providing translation support and clarifying jargon, these tools can help bridge aspects of the Digital Divide 2.0, offering crucial support to researchers for whom English is an additional language or who are entering a new disciplinary field.

Personalized and Adaptive Learning Pathways: AI systems can track a researcher's progress, identify knowledge gaps, and recommend tailored readings to build a coherent understanding of a field (Ifenthaler & Schiffarth, 2023). This personalization acts as a cognitive scaffold, counteracting the tendency toward superficial, fragmented reading by guiding sustained, deep engagement with a curated learning trajectory. It effectively provides a "personal research assistant," making expert-level navigation of complex literatures more accessible.

Facilitation of Critical Dialogue: Emerging tools are designed to deepen, not replace, reading. AI can generate critical questions, suggest counterarguments, or help draft analytical notes, fostering a dialogic interaction with the text (Bozkurt, 2023). This function is pedagogically significant, as it actively cultivates the critical thinking skills that are essential for a research-

Received: October 15, 2025. Accepted: December 16, 2025

oriented culture. By modeling processes of intellectual interrogation challenging assumptions, identifying logical gaps, and proposing alternative interpretations AI can serve as a "critical companion" that helps researchers internalize a more rigorous analytical framework. This shifts the researcher's role from a passive consumer of information to an active participant in a scholarly conversation, helping to develop the very habits of mind that passive consumption or biased algorithmic feeds might otherwise undermine.

Implications for Research and Practice

A proactive and critical approach is required from all stakeholders, encompassing immediate actions and long-term strategic shifts.

Short-Term Actions:

Pedagogical Integration: Educators should immediately move beyond tool-centric training to develop "AI literacy" curricula. These initiatives must teach students to use AI critically and ethically, emphasizing its role as a supplement to—not a replacement for—deep reading and critical thinking (UNESCO, 2023).

New Role for Librarians and Information Specialists: Academic librarians must rapidly evolve into specialists in AI-aided research. Their immediate focus should be on guiding students to evaluate AI-generated content, understand algorithmic bias, and use these tools responsibly within academic workflows (Xiao & Watson, 2024).

Ethical Policy Development: Institutions need to formulate and disseminate clear, interim policies on the ethical use of AI in research and assessment. This provides a necessary framework for responsible experimentation while longer-term governance is established.

Long-Term Strategies:

Received: October 15, 2025. Accepted: December 16, 2025

Systemic Curricular Reform: The long-term goal for educators is the systemic integration of AI literacy and critical digital reading across disciplines. This requires redesigning core research methods courses to model AI-assisted scholarship as a standard, reflective practice.

Strategic Infrastructure and Advocacy: Institutions must develop sustainable infrastructure. This involves negotiating institutional licenses for equitable AI tool access and actively advocating for the development of open-source, transparent AI models to mitigate systemic bias and accessibility issues (UNESCO, 2023). Librarians' roles will expand to include auditing AI tools for scholarly reliability and contributing to the development of these open academic technologies.

Ethical Governance Frameworks: Beyond initial policies, institutions should establish standing committees to continuously audit AI use, update ethical guidelines in response to technological advances, and ensure alignment with core academic values of rigor, equity, and intellectual autonomy.

Conclusion

The integration of AI into the research ecosystem presents a profound paradox. It offers unprecedented power to manage information and personalize inquiry, yet simultaneously risks promoting shallow engagement, entrenching bias, and widening academic inequality. The future of a research-oriented reading culture, therefore, demands neither uncritical adoption nor outright rejection, but a deliberate, strategic orchestration.

Success hinges on a concerted, multi-stakeholder effort. For **educators**, this means advancing beyond basic tool literacy to developing robust curricula that frame AI as a partner in critical thinking, not a substitute for it. **Librarians and information specialists** must evolve into essential guides, helping scholars navigate and critically evaluate AI-generated content. **Institutions** bear

Received: October 15, 2025. Accepted: December 16, 2025

the responsibility of creating the ethical and infrastructural framework through clear use policies, equitable access to advanced tools, and advocacy for transparent AI models.

Ultimately, the measure of success will not be technological sophistication alone, but our collective ability to harness AI for efficiency without surrendering the uniquely human capacities for deep reading, critical reflection, and scholarly curiosity. The path forward is clear: to build a future where AI elevates the integrity and depth of research, rather than diminishes it. Future research must empirically test the frameworks proposed here, evaluating how specific pedagogical interventions and policy measures impact the quality of scholarly engagement in an AI-augmented landscape.

References

Al-Emran, M., Al-Sharafi, M. A., Arpaci, I., & Shaalan, K. (2023). Towards a conceptual model for examining the impact of knowledge management factors on mobile learning acceptance. *Technology in Society, 74,* 102315. Retrieved from https://doi.org/10.1016/j.techsoc.2023.102315

Baron, N. S. (2021). *How we read now: Strategic choices for print, screen, and audio.* Oxford University Press.

Barshay, J. (2023, November 13). Evidence increases for reading on paper instead of screens. The Hechinger Report. Retrieved from https://hechingerreport.org/evidence-increases-for-reading-on-paper-instead-of-screens/

Bozkurt, A. (2023). Generative artificial intelligence (AI) powered conversational educational agents: The inevitable paradigm shift. *Asian Journal of Distance Education, 18*(1), i–viii.

Dwivedi, Y. K., Kshetri, N., Hughes, L., Slade, E. L., Jeyaraj, A., Kar, A. K., & Wright, R. (2023). "So what if ChatGPT wrote it?" Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. *International Journal of Information Management, 71,* 102642.

Gazzaley, A., & Rosen, L. D. (2024). *The distracted mind: Ancient brains in a high-tech world (2nd ed.).* The MIT Press.

Received: October 15, 2025. Accepted: December 16, 2025

Ifenthaler, D., & Schiffarth, V. (2023). AI-based educational technologies for sustainable learning: A systematic review. *Computers and Education: Artificial Intelligence, 5,* Retrieved from 100143. https://doi.org/10.1016/j.caeai.2023.100143

Noble, S. U. (2018). *Algorithms of oppression: How search engines reinforce racism.* NYU Press.

UNESCO. (2023). *Guidance for generative AI in education and research.* United Nations Educational, Scientific and Cultural Organization. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000386041

Van Dis, E. A., Bollen, J., Zuidema, W., van Rooij, R., & Bockting, C. L. (2023). ChatGPT: Five priorities for research. *Nature, 614*(7947), 224–226. Retrieved from https://doi.org/10.1038/d41586-023-00288-7

Wolf, M., & Barzillai, M. (2023). The changing brain of the reader: Deep reading in the digital age. In C. Bazerman, C. Donahue, & P. Rogers (Eds.), *The Routledge international handbook of research on writing* (pp. 245–258). Routledge.

Xiao, L., & Watson, M. (2024). Guidance on conducting a systematic literature review. In J. Hattie & E. Anderman (Eds.), *Handbook of research on teaching* (pp. 1–25). Edward Elgar Publishing. Retrieved from https://doi.org/10.4337/9781800377964.00010

Zhuo, T. Y., Huang, Y., Chen, C., & Xing, Z. (2023). Exploring AI ethics of ChatGPT: A diagnostic analysis. *arXiv.* Retrieved from https://doi.org/10.48550/arXiv.2301.12867

Received: October 15, 2025. Accepted: December 16, 2025