

# AI in literature research: a workshop perspective

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## Abstract

*Artificial intelligence (AI) is increasingly used in academic research, including literature search and systematic reviews. This article shares insights from the “AI in Literature Research” workshop held at the 2025 VOGIN-IP-lezing in Amsterdam. The workshop, attended by 45 information professionals, included a poll, a theoretical session on AI tools, and a hands-on session exploring AI search tools (Perplexity, SciSpace, and Elicit). Participants were generally positive about AI developments but also raised concerns about transparency, reliability, and bias. The workshop enabled information professionals to explore tools, exchange perspectives and reflect on the role of AI in literature research and research support.*

**Key words:** artificial intelligence; information seeking behavior; information storage and retrieval; professional competence; systematic reviews. competence; systematic reviews.

## Introduction

The growing use of artificial intelligence (AI) technologies in academic research workflows is transforming the ways in which scientific literature is accessed and synthesised. This shift was the central theme of the “AI in literature research” workshop held in Amsterdam. To illustrate this transformation, the workshop opened with an audio passage generated by the AI tool NotebookLM. The passage featured a dialogue that compared traditional keyword searches with AI-driven approaches to literature retrieval, based on a published article (1):

“We have been stuck in this keyword world for so long. Now we have systems generating answers directly and summarising complex topics.”

This example illustrates the potential of AI to support researchers in interpreting complex scientific information, including tasks involved in systematic reviews. AI tools can assist with various stages of the systematic review process, including search, screening, data extraction and risk of bias assessment (2-4). Screening is the most extensively studied step, with tools such as AS-Review helping to prioritise studies and potentially save time (5-7).

Although several studies have explored the use of AI in systematic reviews and have piloted or summarised available tools, there is no clear consensus on their effectiveness or implementation. Human validation of AI-generated outputs remains essential to preserve the integrity and reliability of the research process. Researchers advocate for stronger oversight and clear frameworks to guide responsible use (8-10).

Despite ongoing evaluation of their accuracy and effectiveness, AI tools are already used in everyday research environments. Researchers, healthcare professionals and students increasingly encounter them in their work or studies, often without clear guidance on how to use them effectively, critically or responsibly. Information specialists are well-positioned to meet this growing need for guidance on the responsible use of AI. Their expertise in designing systematic search strategies, structuring information, applying research frameworks and contributing to methodological rigour in systematic reviews supports this role (11, 12).

By actively engaging with AI developments, information specialists can guide users in selecting appropriate tools, understanding their limitations and applying them thoughtfully. Through training, best practices and

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collaboration, libraries can strengthen their own expertise and capacity to support the effective and appropriate integration of AI into literature research.

The “AI in literature research” workshop aimed to share knowledge and perspectives, explore AI tools and facilitate discussion among information professionals. The insights may benefit libraries developing AI expertise and integrating it into their services.

## Methods - Workshop details

### *Workshop setting, participants and schedule*

The workshop was organised as part of the VOGIN-IP-lezing, an annual seminar for Dutch information professionals held in Amsterdam, the Netherlands on March 27th, 2025. A total of 45 participants attended the workshop, representing a diverse range of institutions, including technical universities, universities of applied sciences, medical centres, museums, research institutions, and governmental organisations.

The workshop was delivered in two identical sessions, each lasting two hours, and structured as follows:

- poll: participant perspectives on AI (15 minutes);
- theory: structuring AI and literature research (45 minutes);
- hands-on: exploring AI search tools (60 minutes).

### *Measuring participant perspectives on AI*

A poll was used to gather insights into participants' views on AI developments and their current use of AI tools. Participants accessed the poll via Poll Everywhere by scanning a QR code with their mobile devices.

Poll questions:

1. Which AI tools do you use? (Multiple responses allowed; results displayed as a word cloud);
2. How do you view AI developments in the context of libraries, information landscape and science? (Participants selected one of five emoticons, from sad to happy);
3. Explain your choice of emoticon. (Participants provided brief explanations and could vote on others' responses).

### *Theoretical overview of AI and literature research*

The theoretical part of the workshop began with an overview of key AI concepts, defining artificial intelli-

gence as an umbrella term that includes machine learning, deep learning, generative AI, and large language models (LLMs). This was followed by examples of how AI tools can support different stages of the systematic review process. For instance, PubReminer is a tool for analysing MeSH terms and text words, DedupEnd-Note for deduplicating records, and ASReview for prioritising articles during screening. LLMs such as ChatGPT can be applied across all stages of the review process.

To help participants write effective prompts for LLMs, a simple “Who, What and How” framework was introduced: defining the user and the LLM's role (Who), describing the task (What), and specifying the desired response format or tone (How). Examples illustrated how this method could be used to draft selection criteria or construct a PubMed search strategy.

Finally, the session categorized AI tools for finding and summarising scientific articles into three types: explain-PDF tools (e.g., ChatPDF, AskYourPDF, NotebookLM), snowballing tools that explore citation networks (e.g., ResearchRabbit, LitMaps), and AI search tools that respond to natural language queries with summaries and references (e.g., Perplexity, Elicit, SciSpace). The last type of tool was further explored in the hands-on session.

### *Hands-on exploration of AI search tools*

Participants took part in a hands-on evaluation of three AI search tools: Perplexity, SciSpace and Elicit. Each participant was asked to submit a natural language query to all three tools and compare the outputs. Participants were instructed to:

- compare top-ranked results: assess whether the top articles retrieved were consistent across the three tools when using the same query;
- test reproducibility: submit identical queries in the same tool by two different participants and compare the results to evaluate consistency;
- test tool behaviour using atypical queries: investigate how the tools responded to unanswerable or Dutch-language queries.

## Results

### *Participant perspectives on AI*

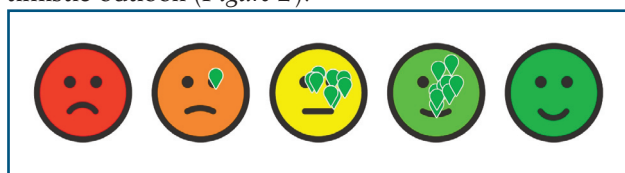
Participants reported using a wide range of AI tools, with ChatGPT, Copilot, and Perplexity being the most

frequently mentioned. The tools fell into several categories including large language models (e.g., ChatGPT, Copilot, DeepL), AI search tools (e.g., Perplexity, Consensus, Semantic Scholar), AI-assisted screening tools (e.g., Rayyan, ASReview) and writing tools such as Grammarly (Figure 1).



**Fig. 1.** “Word cloud that reflects AI tools used in one of the workshop groups.

When asked about their general attitudes towards AI developments in the context of libraries, the information landscape, and science, most participants selected either a slightly happy face or a neutral emoticon. In both groups, there was one sad face. None of the participants selected the most extreme options (very happy or very sad), suggesting a moderate but cautiously optimistic outlook (Figure 2).



**Fig. 2.** “Emotions reflecting participants' views related to AI developments in one of the workshop groups.

Participants elaborated on their views through open-text responses, highlighting both opportunities and concerns. Reported benefits included increased efficiency, time-saving potential, and the ability to generate new insights. Some noted that AI might help engage students in literature research. Concerns reported were related to privacy, ethical and environmental implications, political misuse of information,

transparency, and the reliability of AI-generated content. Several participants also mentioned the overwhelming number of available tools, the need for structure and control, and the importance of learning to use AI responsibly.

The following quotations, translated into English from the original responses, reflect participants' views on AI developments:

- *AI is a useful tool that you can't escape. It is everywhere*
- *I cannot keep up. So many AI tools*
- *Many possibilities, makes many tasks in my daily life more efficient and give me more time for relevant things:)*
- *I don't care much about it. If it works: great. If it doesn't work that's fine too*
- *Handy, but I am concerned about privacy and giving away your data*
- *Concerns about the long-term value of information “what is true”*
- *AI is bad for the environment, but it is still used*
- *Role model as information specialist*
- *Sometimes I wonder what the future of our work looks like.*

### **Hands-on exploration of Perplexity, Elicit and SciSpace**

Participants evaluated three AI search tools: Perplexity, Elicit, and SciSpace, focusing on their usability, output quality, and potential applications in literature research.

The tools were appreciated for their speed, ease of use and the ability to generate summaries and credible references to natural language queries. These features were seen as potentially useful for students and early-career researchers during the initial stages of topic exploration.

Elicit and SciSpace were also noted for helping users refine research questions, and their table-based result displays were considered helpful for understanding retrieved content.

Despite these advantages, participants identified challenges in using the tools reliably. It was noted that the tools returned top papers and summaries even when no clearly relevant literature was available, underscoring the need for critical evaluation of AI outputs, especially in evidence-based contexts. The core functionalities of the tools and observations from workshop participants are summarised in Table 1.

Category	Perplexity	Elicit	SciSpace
Question formulation	User-friendly, may serve as alternative for Google for general queries.	Provides feedback on research questions, helpful for students.	Offers suggestions for refining research questions.
Summary	Generates a narrative summary instantly, based on diverse sources.	Generates a narrative summary instantly, based on four top papers.	Creates a bulleted summary instantly, based on five top papers.
References	Includes references from sources such as Wikipedia, Reddit and blogs.	Presents scientific articles presented in a customisable comparison table.	Scientific articles presented in a customizable comparison table.
Reliability and Reproducibility	Generated the same summary for repeated queries, but with different references.	Returned different top papers than SciSpace for the same query, ranking method is not transparent.	Returned different top papers than Elicit for the same query, ranking method is not transparent.
Limitations	Not specifically designed for scientific sources.	Requires registration, limited functionality in the free version.	Limited functionality in the free version.
Specific features	“Research” option provides a more detailed summary (sign-in required)	“Research report” generates a more detailed summary in five minutes.	Additional features include PDF chat, writing assistance and a paraphrasing tool.

**Table 1.** Key features and observations of AI search tools based on the workshop.

Summary of findings

The hands-on session showed that AI search tools are fast and easy to use, but not transparent, reliable and limited in the free versions. Participants expressed a need for overviews, guidance and structure in applying AI.

Discussion

The workshop provided insight into how information professionals in the Netherlands perceive and engage with AI in the context of literature research. While participants were generally positive about AI developments, they also raised concerns about transparency, reliability, ethical risks, privacy and bias. The session facilitated the exchange of practical ideas, such as using AI tools to help students formulate more precise research questions.

A limitation of the workshop was that the hands-on session focused on AI search tools, which are only marginally applicable to systematic reviews. This reduced its practical relevance for participants support-

ing systematic literature research. Future workshops could be more effective by concentrating on a single AI tool and a specific step of the review process.

Suggested topics for targeted workshops include:

- using ASReview for abstract screening in systematic reviews;
- using ChatGPT to assist in search strategy development, data extraction or risk of bias assessment;
- the value of AI tools as complementary search method in systematic reviews.

Beyond individual workshops, the developments point to a broader need for strategic engagement with AI across the library sector. As AI tools are increasingly used in research, libraries must both stay current with new technologies and ensure they are applied in a responsible and informed way. No single institution can address this alone. Collaboration allows libraries to combine their expertise, learn from each other's experiences and work together to find effective ways of using AI in practice. Workshops contribute to building

collaborative capacity by offering hands-on opportunities to explore tools, discuss real-world applications, and assess the implications of AI for research support and broader information services in health libraries.

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