



User Studies, Information Literacy and Information-Seeking Behaviour

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Abstract

Academic libraries are increasingly operating in hybrid information environments in which users move between print collections, library discovery systems, scholarly databases, institutional repositories, search engines, and social and digital platforms. In this environment, user studies, information literacy and information-seeking behaviour are closely interconnected. User studies help libraries understand users' needs, expectations, preferences, resource use and barriers; information literacy enables users to identify information needs, search effectively, evaluate sources and use information ethically; and information-seeking behaviour describes the processes through which users recognize a need, select sources, search, assess results and obtain information for academic or professional purposes. This paper examines the relationship among these three areas through a review-based conceptual approach. It discusses major dimensions of user studies, the changing information environment, information literacy competencies, common information-seeking patterns, barriers to effective searching, and the role of librarians and academic libraries. Recent research indicates that information literacy is positively associated with effective information-seeking behaviour, while user-oriented library instruction can strengthen users' ability to discover and evaluate scholarly information. The paper concludes that academic libraries should integrate user studies with continuous information-literacy programmes, personalized research support, digital-resource promotion and evidence-based service development.

Keywords: User Studies; Information Literacy; Information-Seeking Behaviour; Academic Libraries; Information Resources; Library Services; Digital Literacy

1. Introduction

Academic libraries exist to support teaching, learning, research and knowledge creation. Their effectiveness, however, cannot be assessed only by counting books, subscriptions, downloads or library visits. A user-centred library must understand who its users are, what information they need, how they search, which sources they prefer, what difficulties they encounter, and how successfully they use the information obtained. User studies provide a systematic means of collecting and interpreting such evidence. They can therefore guide collection development, information services, user education, technology adoption and the redesign of library systems.

The contemporary information environment has made these questions more important. Users can access enormous quantities of information through web search engines, scholarly databases, electronic books, open educational resources, institutional repositories, social media and mobile devices. Greater access does not automatically mean better information use. Users must distinguish authoritative scholarly information from inaccurate, incomplete, outdated or misleading content. They also need to formulate search strategies, select appropriate databases, use keywords and controlled vocabulary, evaluate evidence, manage references and observe copyright and academic-integrity requirements.

Information literacy provides the competencies needed to perform these activities. IFLA describes information competencies in terms that include recognizing information needs and locating, identifying, accessing, retrieving, evaluating, organizing and using information. It also emphasizes the role of librarians in developing information-literacy programmes in partnership with educators (IFLA, 2006). Information-seeking behaviour, in turn, concerns the ways in which people search for and interact with information to satisfy a particular need. It is influenced by the user, the task, the information environment, available technologies, source characteristics and social context. The relationship among user studies, information literacy and information-seeking behaviour is consequently dynamic. User studies identify patterns and problems; information-literacy programmes respond to those problems; and changes in users' searching and use of information provide new evidence for subsequent service improvement. This paper examines these relationships and discusses their implications for academic library practice.

2. Review of Literature / Background

The literature on information behaviour demonstrates that information seeking is not a simple technical act of entering words into a search box. It involves recognizing a need, selecting possible sources, constructing and modifying queries, assessing results, following useful leads, asking for assistance when necessary, and deciding whether the information is adequate for the task. User studies provide the empirical foundation for understanding these activities in particular institutional settings.

Kumari and Sharma (2021), in a critical review of studies of information-seeking behaviour in academic and other libraries, noted methodological weaknesses in parts of the literature and argued for stronger analytical approaches and validation of inferences. Their review also emphasized understanding users' information needs and information-seeking behaviour as a basis for improving library services.

Research has also shown that users do not always begin with the same information source. Head et al. (2017) found that students' starting points and help-seeking practices can differ according to the task and that students may consult faculty and peers while also using library databases. The study highlights the importance of understanding actual user practices rather than assuming that users follow an idealized search process.

The relationship between information literacy and information seeking has received particular

attention. Tachie-Donkor and Ezema (2023) studied 278 students in Ghana using a mixed-methods approach and reported a strong positive association between information-literacy skills and information-seeking behaviour ($r = 0.776$, $p = 0.003$). The authors recommended that academic libraries provide a wide range of information sources and deliberately introduce students to those sources through information-literacy programmes.

Recent research also reflects the increasing importance of digital literacy. A 2026 study of undergraduate and postgraduate students in North Coastal Andhra Pradesh reported strong confidence in basic digital skills but identified a need for more tailored, user-based and discipline-specific training, including emerging areas such as AI literacy, internet safety and misinformation awareness.

The literature therefore suggests that effective academic library services require more than resource provision. Libraries need evidence about user behaviour, structured information-literacy instruction and ongoing assessment of whether users can independently locate, evaluate and use information. This creates a continuous cycle of user research, service design, instruction and evaluation.

3. Objectives of the Study

The objectives of the paper are:

- i. to examine the concepts and significance of user studies, information literacy and information-seeking behaviour;
- ii. to identify major factors influencing users' information needs and searching practices;
- iii. to examine the relationship between information literacy and effective information seeking;
- iv. to discuss the role of academic libraries and librarians in supporting users; and
- v. to suggest practical measures for strengthening user-centred information services and information-literacy programmes.

4. Research Methodology

This paper adopts a descriptive and conceptual review methodology. Relevant scholarly literature, professional guidelines and research studies concerning user studies, information literacy and information-seeking behaviour were examined. The review focused on academic-library users, higher-education contexts, information-resource use, digital information environments and the role of library instruction. The selected literature was analysed thematically rather than treated as a statistical dataset. The paper therefore does not claim to present primary survey findings from a particular institution. Instead, it synthesizes established and recent evidence to identify relationships, recurring patterns, challenges and implications for library practice.

The approach is appropriate for a conceptual paper because the three concepts are interconnected

and are applied differently across institutions and user groups. The review considers both traditional and digital information environments and gives attention to the changing competencies required by users. Professional guidance from IFLA is considered alongside empirical studies of students' information-seeking behaviour and information-literacy skills.

5. Results and Discussion

The reviewed literature indicates that user studies, information literacy and information-seeking behaviour should be treated as complementary components of user-centred library development. The major findings are discussed below.

5.1 User Studies as the Foundation of Library Services

User studies help librarians move from assumptions about users to evidence about actual users. A study may examine demographic characteristics, information needs, frequency and purpose of library use, preferred formats, awareness of services, barriers to access, satisfaction, information-seeking methods and emerging expectations. Such studies can be conducted through questionnaires, interviews, focus groups, observations, transaction analysis, usage statistics, usability testing and mixed methods. The value of user studies lies in their ability to connect evidence with decisions. If users report low awareness of databases, the library can strengthen orientation and database demonstrations. If students experience difficulty identifying scholarly sources, information-literacy sessions can emphasize source evaluation. If users prefer mobile access, the library can review the usability of mobile interfaces. If a collection is underused because users cannot discover it, metadata, discovery tools and promotional strategies may require improvement. User studies should also be periodic. Information behaviour changes as curricula, technologies and scholarly communication change. A service designed from an old user study may gradually become less relevant. Continuous assessment therefore supports evidence-based library management.

5.2 Information Literacy: From Access to Critical Use

Information literacy extends beyond knowing how to locate a book or perform a database search. It includes recognizing an information need, determining the type and scope of information required, selecting appropriate sources, developing search strategies, evaluating authority and relevance, synthesizing information, communicating findings and using information ethically. IFLA guidance emphasizes information competencies as part of lifelong learning and identifies librarians as important facilitators of information-literacy development. In academic settings, information literacy is particularly important because students encounter different levels of authority and evidence. A general web page may be useful for background information but may not provide the methodological quality or scholarly authority required for academic work. Users therefore need to understand the characteristics of books, scholarly journals, reference sources, databases, repositories, government publications and other information resources. Information literacy also has a strong ethical dimension. Users should understand plagiarism, citation, copyright, licensing, responsible sharing and the distinction between original scholarship and

unattributed copying. In digital environments, critical evaluation also includes recognizing misinformation, manipulated content, questionable sources and algorithmically ranked results.

5.3 Information-Seeking Behaviour in the Digital Environment

Information-seeking behaviour is shaped by the interaction of users, tasks, systems and context. Students may search differently when preparing an assignment, selecting a research topic, completing a clinical or professional task, preparing for an examination or pursuing personal learning. Search behaviour may also change according to prior knowledge and confidence. Digital systems have reduced the physical barriers to information access, but they have introduced new challenges. Search engines provide rapid results, while scholarly databases may require knowledge of advanced search techniques. Users may begin with natural-language queries and gradually move to more precise keywords, filters, subject headings or citation trails. They may also move repeatedly between search engines, library catalogues, databases, repositories and social platforms. Research on academic users demonstrates that information seeking can be non-linear. Users may change direction when results are irrelevant, return to earlier searches, ask other people for assistance or use an alternative source. Research at two universities, for example, found overlapping search steps as users interacted with library web interfaces and changed their behaviour according to difficulties and available options. This reinforces the need for systems that are easy to navigate and for librarians who can provide timely assistance.

5.4 Relationship between Information Literacy and Information-Seeking Behaviour

Information literacy influences the quality and efficiency of information seeking. A user who understands the information need can formulate a more focused search question. A user who understands database structure can select appropriate fields and filters. A user who can evaluate evidence can compare sources rather than accepting the first result. A user who understands citation practices can integrate information responsibly. Empirical evidence supports this relationship. Tachie-Donkor and Ezema (2023) reported a strong positive relationship between information-literacy skills and information-seeking behaviour among university students. Their study linked information literacy with the ability to use a variety of quality information resources, cite them properly, and consider currency, authority and relevance. This relationship is not one-directional. Information seeking can also develop information literacy. Repeated engagement with databases, scholarly literature and research tasks gives users opportunities to refine search strategies, compare sources and learn from unsuccessful searches. Library instruction can accelerate this learning by making search processes explicit and by providing guided practice.

5.5 Common Information Sources and User Preferences

Academic users commonly work with a mixture of print and electronic resources. Books remain important for foundational knowledge, while journals and scholarly databases are central to current research. Search engines and academic search services often provide convenient starting points. Institutional repositories, open-access resources, government publications and

professional organizations can also provide valuable information. The reviewed literature suggests that users frequently value speed, accessibility and convenience. However, convenience should not replace evaluation. Tachie-Donkor and Ezema (2023) reported that students used both library and internet sources, while online databases, librarians, scholarly journals and internet resources were important for research projects. The implication for libraries is not to discourage general web use but to help users move efficiently from broad discovery to authoritative and appropriate sources.

5.6 Barriers to Effective Information Seeking

Users may experience barriers at several stages of the information-seeking process. These include lack of awareness of available resources, inadequate search skills, difficulty selecting keywords, unfamiliarity with database interfaces, limited digital skills, information overload, language barriers, access restrictions, poor internet connectivity and uncertainty about source quality. Psychological factors such as lack of confidence or reluctance to ask for assistance may also influence behaviour. A further challenge is the expanding information environment. Users may encounter large numbers of results without knowing which sources are most appropriate. The problem is therefore increasingly one of selection and evaluation rather than simple access. Libraries can address this by teaching search planning, source evaluation, citation management, subject-specific databases and responsible use of digital information. mResearch on academic information seeking has also shown that users may not fully understand the librarian's role. Some students turn to faculty or peers for help, while librarians may be underused as research-support professionals. (cite)turn0search5 This suggests that libraries should promote librarians not only as custodians of collections but as partners in research and learning.

5.7 Role of Librarians in Information Literacy and User Support

Librarians have an important role in connecting users with appropriate information resources and developing independent information skills. Effective support can include orientation programmes, database demonstrations, research consultations, subject guides, reference services, workshops, tutorials, online help, citation support and embedded instruction. Information-literacy instruction is most effective when it is connected to users' real academic tasks. Instead of teaching database features in isolation, librarians can demonstrate how to search for literature for a particular assignment or research question, compare scholarly and non-scholarly sources, evaluate evidence and construct citations. Collaboration with teaching faculty can make instruction more relevant and sustainable. Libraries should also use user-study findings to identify groups requiring additional support. First-year students may need basic orientation; postgraduate students may need advanced literature-search and reference-management skills; researchers may require systematic-search, bibliometric or research-data support; and all users increasingly need guidance about digital credibility and responsible use of emerging technologies.

5.8 Emerging Issues: AI, Misinformation and Digital Literacy

The growth of generative artificial intelligence and algorithmically mediated information services is adding new dimensions to information literacy. Users may receive fluent answers without clear evidence, and they may need to verify claims against reliable sources. AI-assisted searching can support discovery, but users still need the ability to formulate questions, assess outputs, trace claims to authoritative sources and recognize uncertainty. Recent research on digital literacy in academic libraries has identified growing interest in AI literacy, internet safety and misinformation awareness, alongside the continuing need for tailored and discipline-specific training. Libraries can respond by extending information-literacy programmes beyond conventional database searching to include source verification, transparent attribution, privacy awareness, responsible AI use and critical evaluation of generated content.

Table 1: Relationship among User Studies, Information Literacy and Information-Seeking Behaviour

Area	Primary Focus	Library Implication
User Studies	Needs, preferences, barriers, satisfaction and usage patterns	Evidence-based collection and service development
Information Literacy	Finding, evaluating, using and communicating information	Training, tutorials, research support and user education
Information-Seeking Behaviour	Processes and strategies used to satisfy information needs	Improved discovery systems, reference services and user guidance
Integrated Approach	Continuous assessment and skill development	User-centred, adaptive and evidence-based library services

5.9 Implications for Academic Libraries

The combined evidence points to several practical implications. First, libraries should conduct regular user studies rather than relying exclusively on circulation or download statistics. Second, information-literacy programmes should be continuous and progressive, moving from basic orientation to advanced research competencies. Third, instruction should be embedded in disciplinary and curricular contexts whenever possible. Fourth, library websites, discovery tools and databases should be evaluated for usability from the user's perspective. Fifth, librarians should provide multiple modes of assistance, including face-to-face consultation, online guides and virtual support.

Finally, assessment should focus not only on attendance at training but also on learning outcomes. Libraries can assess whether users can formulate search questions, select appropriate databases, retrieve relevant literature, evaluate sources and cite information correctly. Such evidence can demonstrate the educational contribution of the library and guide improvements in future

programmes.

6. Conclusion

User studies, information literacy and information-seeking behaviour are closely connected and should be integrated within academic library planning and practice. User studies reveal what users need and how they behave; information literacy provides the competencies required to navigate increasingly complex information environments; and information-seeking behaviour shows how users actually search, select and use information. Treating these areas separately can limit the effectiveness of library services, whereas an integrated approach enables libraries to respond to real user needs. The reviewed evidence indicates that information literacy is positively associated with effective information seeking and that academic libraries have an important role in developing these competencies. At the same time, users' behaviour is diverse and non-linear. Convenience, technology, prior knowledge, academic tasks, social support and system design all influence the search process. Academic libraries should therefore adopt a continuous user-centred cycle: study users, identify information and skill gaps, design appropriate services and instruction, assess outcomes, and refine services. Particular attention should be given to digital literacy, misinformation, scholarly-resource discovery, ethical information use and emerging AI-mediated information environments. Future research can strengthen this field through longitudinal user studies, discipline-specific comparisons, usability research, learning-outcome assessment and mixed-method investigations of information behaviour.

Acknowledgement

The authors acknowledge the academic and professional library communities whose research and guidance have contributed to the development of this paper.

Funding Statement

This research received no external funding.

Conflict of Interest

The authors declare no conflict of interest.

Author Contributions

Mr. Nitinkumar Jitubhai Makwana contributed to conceptualization, literature review, analysis and manuscript preparation. Mr. Varunkumar Jitubhai Makwana and Ms. Dhruvi I. Parmar contributed to literature review, critical review and manuscript refinement. All three authors approved the final manuscript.

Ethical Approval / Consent

Ethical approval and informed consent were not applicable because this paper is based on a review and conceptual analysis and does not report primary data collected from human participants.



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