



Information Literacy Frameworks in Higher Education: A Comparative Study of ACRL, UNESCO and IFLA Models

Shobhita Mishra

Research Scholar,

Department of Library and Information Science,

Banasthali Vidyapith, Rajasthan India.

E-Mail.id- shobhitam44@gmail.com

Dr. Shesh Mishra

Assistant Professor

Department of Library and Information Science,

Banasthali Vidyapith, Rajasthan India.

E-Mail.id-shesh2709@gmail.com

Abstract

The evolution of information literacy (IL) as a competency in higher education and knowledge societies is a result of rapid technological change and the growing complexity of information environments, digital transformation, and the increasing volume of information that is now available. There are several information literacy frameworks created by international organizations that are used to enhance information literacy skills of learners, teachers and researchers. This paper discusses key information literacy frameworks from the Association of College and Research Libraries, UNESCO and IFLA. The study examines the conceptual underpinnings, elements, goals, and educational implications of these frameworks. The paper also contrasts their attitudes to critical thinking, digital literacy, lifelong learning, and ethical information use and development of academic competency. The study identifies similarities, differences, strengths and implementation challenges associated with each framework. The findings reveal that all frameworks emphasize learner centered education, critical evaluation of information, ethical use of information resources and lifelong learning competencies.

Keywords:Information Literacy, ACRL Framework, UNESCO Framework, IFLA Guidelines, Higher Education, Digital Literacy

1. Introduction

Information literacy (IL) has become one of the most essential competencies in today's digital and knowledge-based society. The rapid development of information and communication technologies, online learning platforms, digital repositories, social media and artificial intelligence has completely changed the way people access, use, evaluate and share information. In this complex information environment, individuals need more than the ability to search for information; they must also critically evaluate the authenticity, relevance and reliability of information before using it for academic, research, or personal purposes (Foo et al., 2021). Therefore, higher education institutions increasingly consider information literacy a fundamental skill for academic success, research productivity, lifelong learning and informed decision-making. Paul Zurkowski first introduced the concept of information literacy in 1974. He explained that information-literate individuals possess the ability to effectively use information resources and tools to solve problems and make informed decisions (Zurkowski, 1974). Initially, educators and librarians associated information literacy mainly with library instruction and bibliographic skills. However, over time, the concept expanded significantly and now includes digital literacy, media literacy, critical thinking, data literacy and AI literacy (Mackey & Jacobson, 2020). Modern information literacy focuses not only on accessing information but also on analysing, interpreting, organizing, creating and ethically communicating information in digital environments. Higher education institutions across the world actively integrate information literacy programmes into teaching, learning and research activities. Universities and academic libraries now play an important role in developing students' research skills, critical thinking abilities and ethical information practices through user education programmes, digital literacy initiatives and research support services (Lloyd, 2021). Information literacy also helps Teachers, students and research scholars to address major challenges such as misinformation, fake news, plagiarism, and unethical use of information, which continue to grow rapidly in online environments and social media platforms (Whitworth, 2022). Recognizing the growing importance of information literacy, several international organizations have developed frameworks and guidelines to support educational institutions and libraries in implementing information literacy programmes. Among the most influential frameworks are those developed by the Association of College and Research Libraries, UNESCO and IFLA. The conceptual models, competency standards and implementation strategies in these frameworks represent a way of thinking about information literacy in higher education and lifelong learning systems. While the ACRL Framework places greater focus on threshold concepts and research-oriented learning practices, the UNESCO framework takes a more comprehensive perspective on media literacy, digital citizenship and democratic participation. Likewise, the IFLA guidelines offer some practical suggestions on how to carry out information literacy programmes in libraries and educational institutions (Lau, 2006). New technologies and tools created by AI, like OpenAI ChatGPT, have extended the definition of information literacy. AI tools are increasingly being used by students and researchers to search, generate, and organise information. Students and researchers are increasingly turning to AI-driven tools for information search, generation and organisation. They therefore need to learn how to critically analyse AI created content, recognise misinformation, and comprehend algorithmic bias and practise ethical use of AI technologies in their academic and research work (Wu & Li, 2025). As such, the new information literacy frameworks now typically include digital competency, AI literacy, ethical information use and critical thinking as key aspects of higher education. Though there have been many efforts promoting information literacy in educational settings around the globe, there are still a number of issues that remain with respect to the implementation of information literacy policies, incorporation of information literacy into the curriculum, technological infrastructure, assessment tools, and faculty involvement. Additionally, there are conceptual, goal and implementation

differences between the ACRL and the UNESCO/IFLA frameworks. Thus, a comparative analysis of these frameworks is crucial in order to understand their strengths, weaknesses and implications to Higher Education Institutions. This study examines and contrasts the information literacy frameworks constructed by ACRL, UNESCO and IFLA, highlighting the conceptual underpinning, dimensions of competency and educational value for higher education. The study also aims to determine the trends that are emerging and suggests an integrated framework that can be applied in a digital and AI-based academic environment.

2. Review of Literature

AI literacy is a key aspect of the educational landscape, and recent studies emphasize the need for students to grasp the ethical implications of AI alongside their technical proficiency. The AI & Data Acumen Learning Outcomes Framework helps teachers incorporate AI literacy into the curriculum, teaching and learning, and assessment. The framework also contributes to the development of critical thinking for students, as well as data competency and responsible use of generative AI technologies (Kennedy & Gupta, 2025). With the emergence of the rapidly evolving generative AI technologies, AI literacy has become a significant issue in school and higher education. But, researchers and educators still don't have a unified perspective on what AI literacy is. Their research demonstrated that some educational strategies are centered on hands-on AI skills and other ones are geared towards critical thinking, ethical consideration, and the social implications of AI. They also highlighted the need for clearer AI literacy frameworks and pointed out several research gaps in current AI education practices (Gu & Ericson, 2025). Akiteng et al. (2026) studied how university libraries in Uganda assess information literacy instruction. The authors found that libraries mostly used simple formative assessment methods such as questionnaires, classroom questions, assignments, demonstrations, and role-playing activities to evaluate students' information literacy skills. The study showed that these methods helped students apply information skills in practical and real-life situations. However, the authors also observed that information literacy programmes were not properly integrated into university curricula and many assessment practices remained informal. Therefore, the study recommended integrating information literacy into academic programmes and using more collaborative and authentic assessment methods in higher education institutions. Ruslan (2022) highlighted that information literacy has become very important in the post-truth era, where fake news and misleading information spread rapidly through different media platforms. The study explained that people need critical thinking skills to identify reliable and trustworthy information. According to the author, critical information literacy helps individuals search, evaluate, and use information more effectively in everyday life. The study also recommended certain practical approaches to verifying information, including considering the source, evaluating the author, reading the entire text attentively, questioning the authenticity of the information and seeking expert advice before accepting information provided online as accurate. Librarians adopted ACRL Framework for Information Literacy for Higher Education in academic libraries. The study revealed that most of the librarians used the framework indirectly instead of explicitly communicating about the framework with students using interactive and hands-on teaching methods. Librarians and faculty support were found to be a critical factor in successful implementation by the authors. There were also a number of difficulties experienced by the librarians: not enough time to teach, lack of access to feedback on learning outcomes, and some faculty and librarians who didn't view the framework as

being relevant to students who have basic information literacy skills (Latham et al., 2019). Savolainen (2021) talked about the idea of information landscapes and people's behavior regarding information in various social and information landscapes. The study conceptualized the information landscape as a place that affects people's information practices in its tangible, social, and cognitive interactions. The author emphasized that information landscapes facilitate access, sharing and use of information in certain contexts. The study did, however, highlight the need for a more complete association of physical landscape features to the social and cognitive components of information behavior at times.. Hai (2026) discussed the importance of information literacy and digital citizenship in medical students' use of information in the digital age was discussed. The study said that growth of digital information is posing new challenges for students in terms of access, understanding and effectiveness of the information. The author highlighted not only the role of information literacy as an academic but as an integral part of establishing responsible digital citizenship. The study also recommended the enhancement of information literacy programmes in educational institutions to enable students to be professionally competent and socially responsible in digitally transformed societies. Khan and Sohail (2025) this study investigated the effects of information literacy programmes on undergraduate students of higher education institutions in the UAE. The study revealed that level of information literacy instruction significantly increased the students' critical thinking, research skills, academic integrity awareness, database searching skills and source evaluation practices. The authors also noted that academic performance and time management of the students have improved as a result of participation in information literacy programmes. But the research revealed that there was still a need to improve citation and other more sophisticated search tactics. The results highlighted the significance of the academic library and tailor-made information literacy programmes in assisting students to develop their academic and research skills. Pinto et al. (2020) between 2006 and 2019, mobile information literacy (MIL) in higher education has developed and been analysed. The study revealed significant themes that included: information literacy, e-learning, mobile devices and competencies, ethics, libraries and e-resources, educational technology, and technological environments. The authors saw an escalation of the relationship between information literacy, digital literacy, mobile technologies, and e-learning in higher education. The study also revealed the growing interdisciplinary character of research on mobile information literacy and the growing importance of mobile technologies for the development of information competence of learners.. Withorn et al. (2020) recent literature about library instruction and information literacy in various library and educational environments. The study gave an annotated literature review of 2020 publications related to Academic libraries, School libraries, University libraries, Information literacy teaching. The authors pointed out noteworthy scholarly work that will assist librarians and researchers to better comprehend trends and practices in library instruction and information literacy. The study also highlighted the increasing significance of information literacy programmes in the education, research and academic achievement process in higher education institutions. Nisha and Varghese (2021) in their study on Information Literacy claimed that it is a must have skill in the modern information society. The authors emphasized the significance of the importance of both libraries and educational institutions in the promotion of information literacy programmes. The study also highlighted the need for the incorporation of information literacy instruction in curricula to decrease the digital divide and enhance information access of information users. Sarkar and Paul (2024) discussed various design and framework for promoting information literacy programmes in

libraries. This study examined the literature published from 2014 to 2023 and highlighted the key goals, methodologies, and stakeholders of information literacy programs and the challenges they face. The authors emphasized the role that the effective information literacy frameworks can play in enhancing user awareness, research skills, and information access in the libraries. The study also highlighted the need for improvement in information literacy strategies and frameworks for the users of the library.

3. Objectives of the Study

- To examine major information literacy frameworks developed by ACRL, UNESCO and IFLA.
- To examine the elements and skills of information literacy frameworks..
- To compare ACRL, UNESCO and IFLA information literacy models.
- To determine the importance and contribution of information literacy frameworks in the context of higher education and research skills.

4. Methodology

4.1 Research Design

This study is descriptive and comparative research to look at major information literacy frameworks developed by the Association of College and Research Libraries, UNESCO, and IFLA. The study mainly focuses on understanding the concepts, components, competencies, and implementation approaches of these frameworks in higher education institutions. It also compares the similarities and differences among the selected frameworks in the context of digital learning and information literacy practices.

4.2 Data Collection

The study uses secondary sources of data in the form of document analysis. It examines official various documents, such as framework documents, policy guidelines, reports, journal articles, books and institutional. Work on information literacy publications. The study focuses in detail on the analysis of the framework. Documents issued by ACRL, UNESCO and IFLA. In addition, relevant literature related to Higher education practices and digital, AI, Critical information literacy is to support the study, the review was conducted.

4.3 Data Analysis

The gathered data is organized and analysed systematically by using basis of comparison and thematic analysis methods. The study provides the comparison of the objectives and major components, competencies, Information literacy frameworks selected and strategies for their implementation. It also identifies the positive and negative elements of such frameworks in higher education and their implications for education in physical & digital learning environments.

5. Results

The study analysed major information literacy frameworks developed by Association of College and Research Libraries, UNESCO and IFLA. To understand their focus areas, competencies, implementation challenges and the role of libraries in promoting information literacy.

Table 1. Comparative of Information Literacy Frameworks

S. No.	Framework	Main Focus	Target Users	Key Emphasis
1	ACRL Framework	Higher education and research learning	Students and researchers	Critical thinking and research skills
2	UNESCO MIL Framework	Media and information literacy	Citizens, students, educators	Digital citizenship and media literacy
3	IFLA Guidelines	Practical information literacy programmes	Library users and institutions	Information access and ethical use

The findings show that all three frameworks focus on improving information literacy. But each framework gives importance to different areas. The ACRL framework mainly supports research learning and critical thinking in higher education. UNESCO focuses more on media literacy, digital citizenship and responsible participation in society. The IFLA guidelines emphasize practical information literacy skills and ethical use of information in libraries and educational institutions.

Table 2. Major Competencies in Information Literacy Frameworks

Competencies	ACRL	UNESCO	IFLA
Information Access	High	High	High
Critical Evaluation	High	High	High
Ethical Use of Information	High	High	High
Digital Literacy	Moderate	High	Moderate
Media Literacy	Low	High	Low
Research Skills	High	Moderate	Moderate
Lifelong Learning	High	High	High

The study found that all frameworks strongly emphasize information access, critical evaluation, and ethical use of information. But some differences were observed in their priorities. The ACRL framework gives more importance to research skills and scholarly learning. While UNESCO strongly promotes media literacy and digital literacy. The IFLA guidelines mainly focus on practical information literacy competencies for library users.

Table 3. Teaching and Learning Approaches in Information Literacy Frameworks

Framework	Teaching Approach	Learning Focus
ACRL	Inquiry-based learning	Research and critical thinking
UNESCO	Participatory learning	Media awareness and social learning
IFLA	Practical instruction	User education and information handling

The findings indicate that the selected frameworks use different teaching methods to develop information literacy skills. The ACRL framework encourages inquiry based and research-oriented learning. UNESCO promotes participatory and collaborative learning through media and digital literacy activities. The IFLA guidelines focus more on practical library instruction and information handling skills for users.

Table 4. Information Literacy Skills in AI Context

Challenges	ACRL	UNESCO	IFLA
Lack of Curriculum Integration	High	High	High
Limited Faculty Participation	Moderate	Moderate	Moderate
Digital Divide	Low	High	Moderate
Lack of Assessment Standards	High	High	High
Technological Limitations	Moderate	High	Moderate

The study identified several challenges in implementing information literacy frameworks in educational institutions. Lack of curriculum integration and assessment standards were common problems across all frameworks. UNESCO related studies particularly highlighted challenges related to digital divide and technological access. The findings also suggest that faculty support and institutional commitment are important for effective implementation of information literacy programmes.

Table 5. Role of Libraries in Information Literacy Frameworks

Library Functions	ACRL	UNESCO	IFLA
User Education Programmes	High	High	High
Research Support Services	High	Moderate	Moderate
Digital Literacy Training	Moderate	High	Moderate
Ethical Information Awareness	High	High	High
Lifelong Learning Support	High	High	High

7. Discussion

The study examined several key frameworks of information literacy from the Association of College and Research Libraries, UNESCO and IFLA and concluded that all frameworks make valuable contributions to the understanding of information literacy competencies in higher education and digital learning environments. The frameworks have similar goals in the areas of access to information and critical evaluation and ethical use of information, but have different emphases and implementation. The results demonstrate that the ACRL framework primarily facilitates research oriented learning, scholarly communication and critical thinking skills for students and researchers. It highly promotes inquiry-based learning and promotes students to think about, analyze and apply information for academic research. In contrast, the UNESCO approach is more media-literacy, digital citizenship, and responsible participation in digital society. UNESCO also calls for action to tackle misinformation, fake news and digital inequality through media and information literacy education. The guidelines of the IFLA focus primarily on practical information literacy teaching, programmes of information literacy education based on ethical use of information through the medium of libraries and educational institutions.

The study also revealed that all the frameworks highly suggest access to information, assessment of information sources, and ethical use of information. But there are variations in some areas like media literacy, digital literacy, research competency, etc. While research skills and scholarly inquiry hold more weight in the ACRL framework, UNESCO emphasizes media literacy and digital awareness. The IFLA guidelines emphasize more on the practical information handling skills and library based instruction. The results show that there is a gradual convergence of digital-, media-, and AI-literacy in the current information literacy frameworks in order to meet the demands of the digital society. The results also show that libraries remain very effective in fostering information literacy and lifelong learning. Academic libraries can facilitate research operations, digital literacy training, user education programmes and ethical information practices. Libraries are now significantly moving beyond their traditional mission and becoming dynamic learning and digital support centres within higher education institutions. The study found that there are several problems in implementing information literacy frameworks, such as: lack of integration with the curriculum, low faculty involvement, and weak assessment criteria and technological obstacles. AI and AI-generated content has emerged rapidly, bringing its own challenges in terms of misinformation and the ethical use of information. Thus, HECs should intensify information literacy programs, incorporate information literacy topics in their curricula, and establish guidelines for responsible AI use of digital technologies.

7. Conclusion

The study looked at the major information literacy frameworks created by the Association of College and Research Libraries, UNESCO and IFLA and concluded that these frameworks have significant contributions to make towards enhancing information literacy skills in higher education and digital learning environment. While the focus and the way of doing things varies, all the frameworks share the concepts of critical thinking, responsible use of information, and lifelong learning and responsible participation in digital society. The result indicates that the ACRL framework is primarily oriented towards research learning and scholarly communication and critical inquiry in higher education. UNESCO places more emphasis on media literacy, digital citizenship and social awareness, and the

IFLA guidelines are more concrete and oriented towards information literacy teaching and ethical information practices via the libraries. The study also discovered that the frameworks of modern information literacy continually incorporate digital literacy, media literacy and AI literacy to tackle the challenges of the digital era. The study also emphasizes the important contribution of libraries in disseminating information literacy through user educative programmes, Digital literacy training and research support services. But the problems like no incorporation of information literacy in the curriculum, technology constraints, poor assessment practices, and less institutional support are still present for the successful implementation of information literacy programmes. Thus, higher education institutions need to continue to enhance information literacy programs and implement digital and AI literacy into the curriculum. The study concludes that information literate frameworks have a vital role in building the informed, critical and responsible learners in the digital world.

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