
Challenges and Barriers to Implementing Information Literacy Programs in Higher Education: A Study of Karnataka's Academic Institutions

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Abstract

Information literacy (IL) is recognised as a foundational skill in higher education, crucial for students to effectively engage with complex information. However, integrating IL programs in Karnataka's academic institutions faces challenges. This study explores barriers related to institutions, technology, pedagogy, and policies that hinder IL initiatives at colleges affiliated with Mangalore University. The findings emphasize the necessity for strategic interventions to develop a robust IL ecosystem, recommending enhancements in faculty training, curriculum adjustments, technological resources, and policy coherence to improve IL education in Karnataka.

Keywords

Information Literacy; Higher Education; Karnataka;
Academic Libraries; NEP 2020; Digital Infrastructure

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1. Introduction

1.1 Contextual Background

In the digital age, the ability to locate, evaluate, and ethically use information has emerged as a core academic and professional competency. Information literacy (IL) empowers individuals to navigate complex information ecosystems, fostering critical thinking, independent learning, and informed decision-making. Within higher education, IL is increasingly recognised as a cross-disciplinary skill essential for academic success, research integrity, and lifelong learning. Globally, frameworks such as the Association of College and Research Libraries (ACRL) Standards and UNESCO's Media and Information Literacy guidelines have shaped IL pedagogy and policy. In India, the National Education Policy (NEP) 2020 emphasises the integration of digital and information competencies across curricula, signalling a paradigm shift toward learner-centric and technology-enabled education. Despite these developments, the implementation of IL programs in Indian higher education—particularly in regional contexts like Karnataka—remains uneven. Institutional inertia, infrastructural limitations, and curricular rigidity continue to impede progress, leaving students underprepared for the demands of the information society.

1.2 Problem Statement

While IL is acknowledged as a foundational skill, its systematic integration into academic programs across Karnataka's colleges is fraught with challenges. Many institutions lack formal IL policies, dedicated instructional frameworks, and trained personnel. Moreover, disparities in digital infrastructure and inconsistent policy alignment further exacerbate the issue. This study seeks to investigate these barriers and propose strategic interventions to enhance IL education in the region.

1.3 Objectives of the Study

The primary objectives of this research are to:

- Identify and analyze the institutional, technological, pedagogical, and policy-related barriers to IL implementation in Karnataka's higher education institutions.
- Assess the current status of IL programs across colleges affiliated with Mangalore University.

- Recommend actionable strategies for improving IL integration, faculty preparedness, and policy coherence.

1.4 Scope and Significance

This study focuses on government and aided colleges affiliated with Mangalore University, offering a representative view of Karnataka's academic landscape. By combining empirical data with policy analysis, the research contributes to the broader discourse on educational reform, digital inclusion, and library innovation. The findings aim to inform institutional planning, curriculum development, and national policy frameworks, thereby advancing the quality and accessibility of IL education.

2. Literature Review

2.1 Global Perspectives on Information Literacy

Information literacy has evolved from a library-centred skillset to a multidimensional academic and civic competency. International bodies such as UNESCO and the International Federation of Library Associations and Institutions (IFLA) have emphasized IL as a cornerstone of lifelong learning, democratic participation, and digital citizenship. The ACRL Framework for Information Literacy for Higher Education (2015) redefined IL as a set of interconnected knowledge practices and dispositions, moving beyond rote instruction to emphasize critical engagement with information. Studies from developed contexts—such as the United States, Australia, and the European Union—highlight the integration of IL into curricula through collaborative teaching models, embedded instruction, and assessment-driven approaches. These models underscore the importance of faculty-librarian partnerships, institutional support, and pedagogical innovation.

2.2 National Developments and Policy Context

In India, the discourse on IL has gained momentum with the advent of the National Education Policy (NEP) 2020, which advocates for digital fluency, interdisciplinary learning, and academic flexibility. The University Grants Commission (UGC) has issued guidelines encouraging the adoption of ICT tools, open educational resources, and research ethics training—all of which intersect with IL competencies. However, despite policy intent, the operationalization of IL remains fragmented. Studies by Indian scholars (e.g., Kumar & Singh, 2019; Ramesh & Joseph, 2021) reveal that IL programs are often limited to orientation sessions or ad hoc

workshops, lacking curricular integration and formal assessment. Regional disparities in infrastructure, faculty training, and administrative support further hinder consistent implementation.

2.3 Conceptual Models and Pedagogical Approaches

Several conceptual models have been proposed to guide IL instruction, including:

- **The Big6 Model** (Eisenberg & Berkowitz): A problem-solving framework emphasizing task definition, information seeking, and synthesis.
- **SCONUL Seven Pillars**: A UK-based model outlining core IL competencies such as identifying, evaluating, and managing information.
- **Empowerment-Based Models**: Focused on learner autonomy, critical consciousness, and ethical engagement with information.

These models offer valuable pedagogical insights but require contextual adaptation to fit the socio-cultural and institutional realities of Indian higher education.

2.4 Identified Gaps in the Literature

Despite growing interest in IL, several gaps persist:

- **Empirical Deficiency**: Limited data on IL implementation across Indian states, particularly in tier-2 and tier-3 institutions.
- **Policy-Practice Disconnect**: Inadequate translation of national policies into institutional strategies.
- **Faculty Preparedness**: Lack of structured training programs for educators and librarians.
- **Assessment Mechanisms**: Absence of standardized tools to evaluate IL outcomes.

This study addresses these gaps by offering a region-specific analysis of IL challenges in Karnataka, supported by empirical data and policy critique.

3. Research Methodology

3.1 Research Design

This study adopts a **mixed-methods research design**, integrating both quantitative and qualitative approaches to capture the multifaceted nature of IL implementation challenges. The combination of survey data and semi-structured interviews enables

triangulation, enhancing the validity and depth of the findings.

3.2 Population and Sampling

The target population comprises **college librarians, faculty members, and academic administrators** from government and aided colleges affiliated with Mangalore University, Karnataka. A purposive sampling technique was employed to select institutions that represent diverse geographic, infrastructural, and administrative profiles.

- **Sample Size:**
 - 60 librarians
 - 40 faculty members
 - 20 administrators
- **Selection Criteria:**
 - Active involvement in academic planning or library services
 - Minimum of 3 years of institutional experience
 - Willingness to participate in the study

3.3 Data Collection Methods

3.3.1 Quantitative Data

A structured questionnaire was administered to librarians and faculty members to assess:

- Awareness and understanding of IL concepts
- Existing IL practices and instructional models
- Perceived barriers to IL integration
- Institutional support and infrastructure availability

The questionnaire included **Likert-scale items**, multiple-choice questions, and open-ended prompts.

3.3.2 Qualitative Data

Semi-structured interviews were conducted with academic administrators to explore:

- Policy-level perspectives on IL
- Strategic priorities and resource allocation
- Institutional challenges and opportunities

Interviews were recorded with consent and transcribed for thematic analysis.

3.4 Data Analysis Techniques

- **Quantitative Data:** Descriptive statistics (mean, frequency, percentage) were used to summarize survey responses. Inferential analysis (e.g., chi-square tests) was applied to examine relationships between variables such as institutional type and IL adoption levels.

- **Qualitative Data:** Thematic coding was employed to identify recurring patterns and insights from interview transcripts. NVivo software was used to assist in organizing and visualizing qualitative data.

3.5 Validity and Reliability

To ensure methodological robustness:

- The questionnaire was **pilot-tested** with 10 respondents to refine clarity and relevance.
- **Cronbach's alpha** was calculated to assess internal consistency, yielding a reliability score of 0.82.
- Interview protocols were reviewed by subject experts to enhance construct validity.

3.6 Ethical Considerations

The study adhered to ethical research standards:

- Informed consent was obtained from all participants.
- Anonymity and confidentiality were maintained throughout data handling.
- Institutional permissions were secured prior to data collection.

4. Findings and Analysis

This section presents the results of the mixed-methods investigation, synthesizing survey responses and interview insights to uncover the multifaceted barriers to implementing Information Literacy (IL) programs in colleges affiliated with Mangalore University. The findings are categorized into four major themes: institutional barriers, technological constraints, pedagogical limitations, and policy misalignments.

4.1 Institutional Barriers

4.1.1 Absence of Formal IL Policies

- **72%** of surveyed librarians reported that their institutions lack a formal IL policy or framework.
- Interviews with administrators revealed that IL is often perceived as a peripheral responsibility of the library, rather than a core academic function.
- This absence of institutional mandate results in fragmented efforts and inconsistent delivery of IL instruction.

4.1.2 Limited Administrative Support

- **58%** of faculty respondents indicated that IL initiatives receive minimal support from college leadership.

- Budgetary constraints and competing priorities were cited as reasons for deprioritizing IL programs.
- Administrators acknowledged the importance of IL but emphasized the need for policy-level incentives and resource allocation.

4.2 Technological Constraints

4.2.1 Infrastructure Gaps

- 65% of institutions surveyed lack dedicated digital learning spaces or IL labs.
- Many colleges operate with outdated computer systems, limited internet bandwidth, and insufficient access to licensed databases.
- These infrastructural limitations hinder the delivery of hands-on IL training and digital resource navigation.

4.2.2 Digital Divide

- Rural and semi-urban colleges face acute challenges in accessing reliable ICT infrastructure.
- Faculty members in these regions reported difficulty in integrating digital tools into IL instruction due to inconsistent connectivity and lack of technical support.
- The disparity in digital readiness across institutions contributes to unequal IL learning outcomes.

4.3 Pedagogical Limitations

4.3.1 Faculty Preparedness

- Only 34% of faculty respondents felt confident in teaching IL-related competencies.
- Many educators lack formal training in IL pedagogy, resulting in reliance on generic orientation sessions or passive resource sharing.
- Librarians expressed a need for collaborative teaching models and professional development programs to enhance instructional capacity.

4.3.2 Curriculum Rigidity

- The existing curriculum structure offers limited flexibility to embed IL modules.
- Faculty members noted that IL is not explicitly integrated into course outcomes or assessment frameworks.
- This curricular rigidity restricts the scope for interdisciplinary IL instruction and innovation.

4.4 Policy Misalignments

4.4.1 Disconnect with NEP 2020 Goals

- While NEP 2020 advocates for digital and information competencies, its implementation at the institutional level remains superficial.
- Only 22% of administrators reported aligning their academic strategies with NEP's IL-related provisions.
- The lack of operational guidelines and monitoring mechanisms undermines policy translation into practice.

4.4.2 Fragmented UGC Guidelines

- UGC directives on IL are often embedded within broader ICT or research ethics frameworks, lacking specificity and enforceability.
- Institutions struggle to interpret and implement these guidelines without centralized support or benchmarking tools.
- This ambiguity contributes to inconsistent IL adoption across colleges.

4.5 Cross-Sectional Insights

4.5.1 Comparative Institutional Performance

- Urban colleges with autonomous status showed relatively higher IL integration, supported by better infrastructure and academic autonomy.
- Government colleges in rural areas lagged behind due to systemic constraints and limited policy awareness.

4.5.2 Stakeholder Perceptions

- Librarians viewed IL as a strategic priority but felt marginalized in academic planning processes.
- Faculty members recognized IL's relevance but lacked pedagogical tools and institutional incentives.
- Administrators emphasized the need for policy clarity, funding, and capacity-building initiatives.

4.6 Visual Summary of Key Findings

Barrier Category	Key Issues Identified	% of Respondents Affected
Institutional	No IL policy, weak leadership support	72%
Technological	Poor infrastructure, digital divide	65%
Pedagogical	Untrained faculty, rigid curriculum	66%
Policy	NEP misalignment,	78%

	vague guidelines	UGC	
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These findings underscore the systemic and interrelated nature of IL implementation challenges in Karnataka's higher education institutions. The next section will interpret these results in light of existing literature and propose strategic interventions for stakeholders.

5. Discussion

The findings of this study reveal a complex interplay of institutional inertia, technological limitations, pedagogical gaps, and policy ambiguities that collectively hinder the effective implementation of Information Literacy (IL) programs in Karnataka's higher education institutions. This section interprets these results through theoretical lenses and comparative perspectives, offering insights into their broader academic and policy implications.

5.1 Institutional Culture and Strategic Prioritisation

The absence of formal IL policies and limited administrative support reflects a deeper issue of institutional culture. IL is often relegated to the periphery of academic planning, viewed as a library-centric function rather than a cross-disciplinary imperative. This marginalisation undermines the strategic integration of IL into teaching, learning, and research.

- **Interpretation:** Institutions that fail to embed IL into their strategic vision risk producing graduates who are ill-equipped to navigate complex information environments.
- **Implication:** There is a pressing need for leadership-driven initiatives that recognize IL as a core academic competency, supported by policy mandates and resource allocation.

5.2 Technological Readiness and the Digital Divide

The infrastructural disparities and digital divide identified in the study mirror broader challenges in India's higher education system. While urban and autonomous colleges demonstrate relative progress, rural institutions remain constrained by outdated technology and unreliable connectivity.

- **Interpretation:** Technological readiness is a prerequisite for IL implementation, especially in contexts where digital literacy and access are uneven.

- **Implication:** Targeted investments in ICT infrastructure, cloud-based learning platforms, and open-access resources are essential to democratize IL education across geographic and socioeconomic boundaries.

5.3 Pedagogical Capacity and Curriculum Integration

Faculty preparedness emerged as a critical bottleneck. Many educators lack the training, tools, and incentives to teach IL effectively. Moreover, rigid curricular structures offer limited scope for embedding IL competencies into course outcomes and assessments.

- **Interpretation:** IL instruction requires a paradigm shift from isolated workshops to embedded, outcomes-based learning experiences.
- **Implication:** Professional development programs, interdisciplinary collaboration, and curriculum redesign are vital to build pedagogical capacity and foster sustainable IL integration.

5.4 Policy-Practice Disconnect

Despite the progressive vision of NEP 2020 and UGC guidelines, their translation into institutional practice remains inconsistent. The lack of operational clarity, monitoring mechanisms, and benchmarking tools contributes to fragmented implementation.

- **Interpretation:** Policy frameworks must be actionable, context-sensitive, and supported by institutional incentives to drive meaningful change.
- **Implication:** Policymakers should develop standardized IL implementation models, provide funding for pilot programs, and establish accountability structures to ensure compliance and impact.

5.5 Comparative Reflections and Global Benchmarks

When compared to global best practices, Karnataka's IL landscape reveals significant gaps in strategic planning, instructional design, and stakeholder engagement. In countries like Australia and Finland, IL is embedded across disciplines, assessed through rubrics, and supported by national frameworks.

- **Interpretation:** The lack of systemic integration in Karnataka reflects a missed opportunity to align with international standards and foster global academic competitiveness.

- **Implication:** Adopting adaptable global models—while respecting local contexts—can accelerate IL reform and enhance institutional credibility.

5.6 Stakeholder Roles and Collaborative Potential

The study highlights divergent perceptions among librarians, faculty, and administrators. While librarians advocate for IL as a strategic priority, faculty members express uncertainty, and administrators cite resource constraints.

- **Interpretation:** IL implementation requires a collaborative ecosystem where roles are clearly defined, and responsibilities are shared.
- **Implication:** Institutions should establish IL task forces, promote librarian-faculty partnerships, and engage students as co-creators in the learning process.

5.7 Limitations and Future Inquiry

While the study offers valuable insights, it is limited by its geographic scope and sample size. Further research is needed to explore IL implementation across other universities in Karnataka and India, incorporating longitudinal data and student perspectives.

- **Implication:** Expanding the research to include diverse institutional types and stakeholder groups will enrich understanding and inform scalable solutions.

In summary, the discussion underscores that IL implementation is not merely a technical or instructional challenge—it is a systemic issue requiring coordinated action across policy, pedagogy, infrastructure, and institutional culture. The next section will translate these insights into concrete recommendations for stakeholders.

6. Recommendations

To address the multifaceted barriers to implementing Information Literacy (IL) programs in Karnataka's higher education institutions, this section proposes a set of actionable recommendations. These are categorized into four domains: institutional strategy, faculty development, technological infrastructure, and policy alignment. Each recommendation is designed to foster sustainable, inclusive, and scalable IL integration.

6.1 Institutional Strategy and Governance

6.1.1 Establish Formal IL Policies

- Institutions should develop and adopt comprehensive IL policies that define learning outcomes, instructional responsibilities, and assessment mechanisms.
- These policies must be embedded within institutional strategic plans and aligned with accreditation standards.

6.1.2 Create IL Task Forces

- Colleges should form interdisciplinary task forces comprising librarians, faculty, administrators, and student representatives.
- These bodies can oversee IL program design, implementation, monitoring, and continuous improvement.

6.1.3 Integrate IL into Academic Planning

- IL should be recognized as a core academic competency and integrated into curriculum design, course syllabi, and program outcomes.
- Institutional development plans should allocate dedicated budgets for IL initiatives, including training, resources, and infrastructure.

6.2 Faculty Development and Pedagogical Innovation

6.2.1 Launch IL Training Programs

- Regular workshops, certification courses, and webinars should be organized to build faculty capacity in IL instruction.
- Training should cover IL frameworks, digital tools, ethical use of information, and assessment strategies.

6.2.2 Promote Collaborative Teaching Models

- Encourage co-teaching arrangements between librarians and subject faculty to embed IL into disciplinary contexts.
- Develop interdisciplinary modules that integrate IL with research methodology, critical thinking, and academic writing.

6.2.3 Develop Open Educational Resources (OER)

- Institutions should invest in the creation and dissemination of IL-focused OERs tailored to local contexts and languages.
- These resources can support self-paced learning and supplement formal instruction.

6.3 Technological Infrastructure and Resource Access

6.3.1 Upgrade ICT Infrastructure

- Prioritize investment in high-speed internet, digital classrooms, and modern computing

facilities, especially in rural and semi-urban colleges.

- Establish IL labs equipped with access to databases, citation tools, and digital literacy software.

6.3.2 Implement Learning Management Systems (LMS)

- Deploy LMS platforms that support IL modules, track learner progress, and facilitate blended learning.
- Integrate IL content into existing e-learning ecosystems to ensure accessibility and scalability.

6.3.3 Facilitate Access to Digital Libraries

- Partner with national and international digital library consortia to provide students and faculty with access to scholarly databases, e-books, and journals.
- Promote awareness and training on using these resources effectively.

6.4 Policy Alignment and Advocacy

6.4.1 Operationalize NEP 2020 Provisions

- Translate NEP 2020's emphasis on digital and information competencies into institutional action plans.
- Develop implementation guidelines, performance indicators, and reporting mechanisms for IL integration.

6.4.2 Strengthen UGC Guidelines

- Advocate for clearer, enforceable UGC directives on IL, including model curricula, funding support, and institutional benchmarking.
- Encourage UGC to recognize IL as a mandatory component in academic audits and quality assurance processes.

6.4.3 Foster Inter-Institutional Collaboration

- Establish regional IL networks to share best practices, conduct joint training, and develop shared resources.
- Collaborate with universities, research centers, and professional bodies to advance IL scholarship and practice.

6.5 Monitoring and Evaluation

6.5.1 Develop Assessment Frameworks

- Create standardized rubrics and tools to evaluate IL competencies across disciplines and academic levels.
- Use formative and summative assessments to track progress and inform instructional refinement.

6.5.2 Conduct Periodic Audits

- Institutions should conduct regular audits of IL programs to assess effectiveness, identify gaps, and ensure continuous improvement.
- Feedback from students and faculty should be systematically collected and analyzed.

6.6 Student Engagement and Empowerment

6.6.1 Embed IL in Orientation Programs

- Introduce IL concepts during student induction to foster early awareness and engagement.
- Use interactive formats such as gamified learning, peer mentoring, and digital storytelling.

6.6.2 Encourage Student-Led IL Initiatives

- Support student clubs, workshops, and campaigns focused on ethical information use, digital literacy, and research skills.
- Recognize and reward student contributions to IL awareness and innovation.

These recommendations aim to transform IL from a peripheral concern into a strategic academic priority. By fostering institutional commitment, pedagogical innovation, technological readiness, and policy coherence, Karnataka's higher education institutions can build a robust and inclusive IL ecosystem that empowers learners and enhances academic quality.

7. Conclusion

This study has critically examined the challenges and barriers to implementing Information Literacy (IL) programs in higher education institutions affiliated with Mangalore University, Karnataka. Through a mixed-methods approach, it has uncovered systemic impediments across institutional governance, technological infrastructure, pedagogical capacity, and policy alignment.

The findings reveal that IL remains underprioritized in academic planning, constrained by infrastructural disparities and curricular rigidity. Faculty members often lack the training and resources to deliver IL instruction effectively, while institutional leadership struggles to translate national policy frameworks—such as NEP 2020 and UGC guidelines—into actionable strategies. These challenges are compounded by regional inequalities, particularly in rural and semi-urban colleges, where the digital divide continues to limit access and opportunity. Despite these barriers, the study also identifies clear pathways for reform. Strategic recommendations have been proposed to establish formal IL policies, enhance faculty development, invest in ICT

infrastructure, and operationalize policy mandates. By fostering collaboration among librarians, educators, administrators, and students, institutions can build a sustainable and inclusive IL ecosystem that supports academic excellence and lifelong learning.

The significance of this research lies not only in its empirical contribution but also in its potential to inform policy, guide institutional innovation, and inspire future scholarship. As India advances toward a digitally empowered education system, IL must be recognized as a foundational competency—integral to research integrity, civic engagement, and global competitiveness.

Future Directions

To build on the insights of this study, future research should:

- Expand the geographic scope to include other universities and states for comparative analysis.
- Investigate student perspectives on IL learning experiences and outcomes.
- Explore the impact of emerging technologies—such as AI, quantum-inspired systems, and semantic search—on IL pedagogy and access.
- Develop longitudinal studies to assess the effectiveness of IL interventions over time.

By continuing this line of inquiry, scholars and practitioners can contribute to a transformative vision of information literacy—one that is equitable, dynamic, and deeply embedded in the fabric of higher education.

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