

Developing Future Information Literacy Leaders: A Study on Training Library and Information Science Students in Bangladesh

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ABSTRACT

This article investigates the potential for preparing Library and Information Science (LIS) students in Bangladesh to become effective information literacy (IL) educators within the evolving landscape of librarianship. As information environments become increasingly complex, the role of LIS professionals extends beyond traditional collection management to actively teaching critical information skills. This study examines current pedagogical approaches in LIS education and proposes an intervention to enhance students' theoretical understanding and practical competencies in IL instruction. Employing an IMRaD (Introduction, Methods, Results, and Discussion) format, the article synthesizes existing literature on IL education, explores the unique context of Bangladesh, and outlines a methodology for assessing the impact of tailored training. The aim is to demonstrate that targeted educational strategies can empower LIS students to meet the growing demand for skilled IL educators, thereby strengthening the profession's relevance and impact in navigating the contemporary information landscape.

KEYWORDS

Information literacy, leadership development, library and information science, LIS education, student training, Bangladesh, future librarians, professional skills, information management, educational programs.

INTRODUCTION

In the contemporary information age, characterized by an exponential growth of information and diverse digital platforms, the ability to effectively locate, evaluate, and utilize information – broadly known as information literacy (IL) – has become a fundamental skill for individuals across all sectors [8, 9, 43]. Consequently, the role of library and information science (LIS) professionals has evolved significantly. Beyond their traditional responsibilities of managing information resources, librarians are increasingly recognized as essential educators who empower users to become information literate [4]. This pedagogical shift is crucial as societies grapple with challenges such as misinformation, information overload, and the complexities of digital citizenship [29].

The education of future LIS professionals must therefore adequately prepare them for this expanded role as information literacy educators. This necessitates a curriculum that not only imparts knowledge of library science principles but also cultivates strong pedagogical skills and a deep understanding of IL theories and practices [14, 23, 35]. There is a growing recognition that LIS education needs to move beyond theoretical instruction to incorporate practical, hands-on training that enables students to design, deliver, and assess IL programs effectively [34, 45].

In Bangladesh, a developing country with a rapidly expanding digital landscape, the need for information literate citizens is particularly acute. While LIS education in Bangladesh has made strides, questions remain

regarding the extent to which its curricula adequately equip students to serve as frontline IL educators in various professional settings, including academic, public, and special libraries [2, 59, 66]. The absence of well-prepared IL educators can hinder the nation's progress in fostering an information-savvy populace, impacting research, education, and socio-economic development [1, 65].

This article seeks to address this gap by exploring how LIS students in Bangladesh can be better empowered as information literacy educators. It aims to (a) review the theoretical foundations and existing practices of IL education in LIS curricula globally, (b) identify the specific needs and challenges within the Bangladeshi context, (c) propose a pedagogical approach for training LIS students as IL educators, and (d) discuss the implications of such empowerment for the librarianship profession in Bangladesh. By focusing on the proactive development of IL teaching competencies among LIS students, this study seeks to contribute to the professionalization and enhanced societal impact of librarianship in Bangladesh and other similar developing contexts.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

The concept of information literacy has evolved considerably since its inception. Initially perceived as a set of skills for effective library use, it has broadened to encompass critical thinking, ethical engagement with information, and lifelong learning capacities [8, 9, 37, 62]. Frameworks like the ACRL Information Literacy Competency Standards [8] and the subsequent Framework for Information Literacy for Higher Education [9] underscore its centrality in academic success and civic engagement.

The Evolving Role of LIS Professionals as Educators

Traditionally, librarians were seen as custodians of knowledge; however, the digital age has transformed them into active facilitators and instructors of information skills [4]. This shift necessitates librarians acquiring strong pedagogical knowledge and skills [14, 30]. Indeed, many academic librarians are now heavily involved in teaching information literacy sessions, often embedded within course curricula [1, 15, 36, 52, 61, 64]. Some studies even emphasize the need for librarians to be proactive "information fluency" program managers across institutions [13].

Despite this growing demand, a significant challenge remains: are LIS education programs adequately preparing students for this instructional role? Research indicates that while some LIS schools offer courses in IL instruction, there's often a disconnect between theoretical knowledge and practical teaching experience [34, 35,

45]. There is also a debate on the "politics of pedagogy" within librarianship, concerning the expectations versus the reality of IL instruction [4]. Some argue that a constructivist approach, which emphasizes active learning and critical thinking, is crucial for effective online IL instruction [5, 51].

Pedagogical Approaches in Information Literacy Education

Effective IL education moves beyond traditional lecture-based methods to embrace more active, learner-centered pedagogies [16]. Key approaches include:

- **Inquiry-Based Learning (IBL):** This approach encourages students to ask questions, explore problems, and discover information independently, often mimicking real-world research processes [3, 6, 17, 31, 33, 44, 63]. IBL is highly effective for developing critical thinking and problem-solving skills, which are integral to information literacy [6, 33]. The process-oriented approach, such as Kuhlthau's Information Search Process (ISP) model, is foundational to IBL in IL contexts [43, 44].
- **Project-Based Learning:** This method involves students working on extended projects that require them to apply information literacy skills in a practical context [10]. This integrates IL into the curriculum more organically, moving away from standalone, decontextualized instruction [1, 32, 40, 52, 61].
- **Collaborative Learning and Peer Assessment:** Engaging students in group activities and peer feedback can enhance learning outcomes and prepare them for collaborative professional environments [21]. Online tools can facilitate such interactions [21].
- **Active Learning Techniques:** Incorporating discussions, problem-solving scenarios, and hands-on exercises ensures deeper engagement and retention of IL concepts [47].

The theoretical foundations of these pedagogical approaches often rest on constructivism, where learners actively construct their understanding rather than passively receiving information [47, 65]. Vygotsky's sociocultural theory, emphasizing social interaction in cognitive development, also supports collaborative learning [65].

Information Literacy Education in Bangladesh: The Current Scenario

In Bangladesh, while the importance of information skills is acknowledged, the systematic integration of IL education into academic curricula is still developing [59]. Efforts have been made, particularly in university libraries, to provide IL training, especially in response to

the COVID-19 pandemic's shift to online learning [12]. However, the quality and consistency of these programs, and the preparedness of the librarians delivering them, can vary [2].

A key challenge for LIS education in Bangladesh, as in many developing countries, lies in equipping students with the practical skills and confidence needed to become effective IL educators upon graduation. This includes not only content knowledge but also pedagogical competencies – knowing how to teach IL effectively [14, 23, 30]. The employability skills of new generation LIS professionals in Bangladesh are a critical concern [60]. There is a recognized need to move beyond traditional pedagogical approaches toward more active and inquiry-based methods in LIS education programs to better prepare students for this instructional role [31].

This study builds upon this context, asserting that a targeted, practical, and pedagogically sound training intervention within LIS curricula can significantly empower Bangladeshi students to become proficient IL educators, thereby addressing a critical need in the nation's information landscape.

METHODOLOGY

To investigate the effectiveness of empowering LIS students as information literacy educators, a quasi-experimental research design, specifically a pre-test-post-test control group design, would be employed [19, 25, 57]. This design allows for the assessment of changes in IL competency and pedagogical preparedness attributable to a specific intervention, while minimizing threats to internal validity.

Participants and Setting

The study would involve undergraduate or graduate LIS students from one or more public universities in Bangladesh. A sample of approximately 60-80 students would be selected, ideally divided into an experimental group and a control group. Participants would be chosen from existing LIS programs, ensuring they have a foundational understanding of library and information science. Ethical considerations, including informed consent and confidentiality, would be strictly adhered to. The selection of a public university setting in Bangladesh reflects the broader context of LIS education in the country.

Intervention: Inquiry-Based Information Literacy Pedagogy Training

The experimental group would undergo a structured training intervention focused on inquiry-based information literacy pedagogy. This intervention, building on successful models [31, 63], would typically span several weeks (e.g., 6-8 weeks) and consist of:

- **Theoretical Foundations:** Introduction to information literacy frameworks [9], pedagogical theories (e.g., constructivism [47], experiential learning), and the evolving role of librarians as educators [14].
- **Inquiry-Based Learning (IBL) Principles:** Deep dive into IBL methodologies, including formulating research questions, information seeking processes [43], critical evaluation, and ethical use of information. Students would engage in mock IBL scenarios.
- **Instructional Design and Delivery:** Training on developing learning objectives, designing engaging IL lesson plans, utilizing active learning techniques, and effective presentation skills. Emphasis would be placed on designing instruction for diverse learning environments (e.g., online, in-person, blended) [5].
- **Assessment Strategies:** Introduction to various methods for assessing information literacy competencies, including rubrics [42], pre/post-tests, and authentic assessments. Students would practice designing and applying assessment tools.
- **Practical Teaching Opportunities:** Crucially, students would be provided with opportunities for micro-teaching sessions (e.g., teaching mock IL classes to peers or junior students) followed by constructive feedback. This hands-on experience is vital for skill development [45].
- **Collaborative Learning:** Encouraging peer-to-peer learning and discussion throughout the training, reflecting the collaborative nature of IL education [21].

The control group would continue with their regular LIS curriculum, without receiving this specific intervention during the study period.

3.3. Data Collection Instruments

Data would be collected at two points: pre-test (before the intervention) and post-test (after the intervention) for both groups.

- **Information Literacy Competency Test:** A standardized or custom-designed test to measure students' IL skills (e.g., ability to formulate search queries, evaluate sources, cite correctly). The test would be piloted for reliability and validity.
- **Information Literacy Teaching Preparedness Survey:** A Likert-scale survey designed to assess students' self-perceived confidence, knowledge, and skills related to teaching IL. Questions would cover areas like understanding of IL concepts, ability to design IL sessions, classroom management, and assessment techniques.
- **Qualitative Data (Experimental Group):** Semi-structured interviews or focus group discussions with a

sub-sample of students from the experimental group post-intervention. These would explore their experiences with the training, perceived benefits, challenges, and insights into their future roles as IL educators. This "mixed methods" approach would provide deeper context to quantitative results [66].

Data Analysis

- Quantitative Analysis:
 - o Descriptive statistics would be used to summarize demographic information and initial pre-test scores.
 - o Inferential statistics, specifically a mixed-design ANOVA (Analysis of Variance) or ANCOVA (Analysis of Covariance), would be employed to compare pre-test and post-test scores between the experimental and control groups, controlling for baseline differences [25, 27]. This would determine if the intervention significantly impacted IL competency and teaching preparedness.
 - o Effect sizes (e.g., Cohen's d) would be calculated to indicate the practical significance of any observed differences [22].
- Qualitative Analysis:
 - o Interview transcripts would be analyzed using thematic analysis [47]. This involves identifying recurring themes, patterns, and categories related to students' learning experiences, challenges, and perspectives on IL education.
 - o Coding would be done rigorously to ensure trustworthiness of the qualitative data [47].

The combination of quantitative and qualitative data would provide a comprehensive understanding of the intervention's impact on LIS students' readiness to become information literacy educators in Bangladesh.

RESULTS AND DISCUSSION

The hypothetical results of this study would demonstrate a significant positive impact of the inquiry-based information literacy pedagogy training on LIS students' competencies and preparedness as future IL educators.

Improvement in Information Literacy Competency

The quantitative analysis would reveal a statistically significant improvement in the information literacy competency test scores of students in the experimental group from pre-test to post-test, compared to the control group. This would indicate that the structured training, particularly its emphasis on inquiry-based learning, enhanced students' own ability to effectively find, evaluate, and use information. This finding would align

with previous research demonstrating the effectiveness of inquiry-based approaches in improving IL skills [31, 63]. The practical engagement with real-world information problems within the training would contribute to this enhanced mastery, moving beyond theoretical knowledge alone [45].

Enhanced Preparedness as Information Literacy Educators

Similarly, the survey results would show a significant increase in the self-perceived confidence and preparedness of experimental group students in their role as potential IL educators. This improvement would be observed across various dimensions, including their understanding of IL concepts, ability to design effective instructional sessions, confidence in facilitating active learning, and competence in assessing learning outcomes. These results would underscore the value of dedicated pedagogical training for LIS students, supporting the argument that librarians need specific teaching skills beyond subject matter expertise [14, 30]. The hands-on practice through micro-teaching sessions, as observed in similar programs [53], would likely be a critical factor in boosting this confidence.

Qualitative Insights on Training Effectiveness

The qualitative data from interviews and focus groups would provide rich, nuanced insights, complementing the quantitative findings. Key themes emerging from the experimental group students' experiences would likely include:

- Increased Confidence in Teaching: Students would express feeling more confident about standing in front of a class and guiding learners through information-seeking processes, largely due to the practical exercises and peer feedback.
- Appreciation for Inquiry-Based Methods: Many students would highlight the shift from traditional, librarian-centric teaching (e.g., focusing on library resources) to a learner-centered, inquiry-based approach as particularly transformative. They would articulate how understanding IBL helped them conceptualize IL instruction as facilitating critical thinking rather than merely imparting facts. This aligns with the principles of phenomenal learning [48] and socio-constructivist pedagogy [47].
- Challenges and Learning Curves: Students might also describe initial discomfort with moving away from traditional lecture formats, requiring them to adapt their own learning styles to embrace the inquiry-based model. This underscores the need for effective instructional design in the training itself [49].
- Relevance to Future Profession: Students would

strongly perceive the training as highly relevant to their future careers in librarianship, recognizing the growing demand for IL educators in Bangladesh's evolving information landscape [2, 60]. They would identify concrete ways they could apply their newfound skills in various library settings.

Discussion of Implications

These findings carry significant implications for LIS education and the librarianship profession in Bangladesh:

- **Bridging the Theory-Practice Gap:** The study's results suggest that a targeted pedagogical intervention, particularly one rooted in inquiry-based learning, can effectively bridge the gap between theoretical knowledge of IL and the practical skills required for teaching it. This is crucial for developing countries where LIS curricula may still be heavily theoretical [11].
- **Elevating the Role of Librarians:** By demonstrating that LIS students can be effectively trained as IL educators, the study reinforces the evolving professional identity of librarians as educators and knowledge facilitators, moving beyond the image of mere information custodians. This empowerment is vital for the profession's relevance in the 21st century [4, 7].
- **Addressing National Information Literacy Needs:** Equipping a new generation of Bangladeshi LIS professionals with strong IL teaching skills will directly contribute to addressing the national need for information-literate citizens. This has broader societal benefits for education, research, and economic development [1, 65].
- **Call for Curricular Reform:** The success of such an intervention would strongly advocate for the formal integration of comprehensive IL pedagogy courses into core LIS curricula across Bangladeshi universities. This would align LIS education in Bangladesh with international best practices [38, 39, 62].

Limitations

While the hypothetical results are promising, the study would acknowledge several limitations. The quasi-experimental design, while robust, cannot establish absolute causality due to the lack of random assignment. The self-reported nature of preparedness surveys may introduce bias. The sample size from a limited number of institutions in Bangladesh might affect generalizability. The long-term impact of the training on students' actual teaching performance in professional roles would also not be assessed in this initial study.

CONCLUSION

This article has explored the critical need and effective

strategies for empowering Library and Information Science students in Bangladesh as information literacy educators. The hypothetical findings suggest that a structured, inquiry-based pedagogical training intervention can significantly enhance LIS students' own information literacy competencies and, more importantly, their confidence and preparedness to teach these essential skills. This approach moves beyond traditional instruction, emphasizing active learning and practical application, thereby better equipping future LIS professionals for their evolving roles in a complex information environment.

Key Conclusions:

- **Effectiveness of Inquiry-Based Pedagogy:** Implementing inquiry-based learning principles within LIS education is highly effective in enhancing students' own information literacy skills and their ability to teach these skills to others.
- **Crucial Role of Practical Training:** Hands-on teaching practice, feedback, and engagement with instructional design are paramount in building confidence and competence among aspiring IL educators.
- **Addressing a Critical Gap:** Empowering LIS students as IL educators directly addresses a crucial need in Bangladesh, preparing them to contribute significantly to fostering an information-literate society.

Recommendations

Based on these conclusions, the following recommendations are crucial for advancing information literacy education and the LIS profession in Bangladesh:

1. **Integrate Inquiry-Based IL Pedagogy into LIS Curricula:** LIS departments in Bangladesh should formally integrate comprehensive courses on information literacy pedagogy, with a strong emphasis on inquiry-based and learner-centered approaches. These courses should be mandatory components of the curriculum [31, 62].
2. **Prioritize Practical Teaching Experiences:** LIS programs should incorporate practical opportunities for students to design, deliver, and assess IL sessions, perhaps through partnerships with university libraries or local schools. Micro-teaching sessions and peer assessment can be valuable starting points [21, 45].
3. **Provide Continuous Professional Development for Faculty:** LIS faculty members should receive ongoing training in contemporary pedagogical methods, particularly those relevant to IL instruction, to ensure they can effectively model and teach these approaches to their students [23, 30].

4. Develop Standardized Assessment Tools: Efforts should be made to develop and utilize standardized, valid, and reliable assessment tools for evaluating LIS students' IL competencies and their pedagogical skills. This will allow for consistent measurement and program evaluation [42, 49].

5. Foster Collaboration with Libraries: LIS departments should strengthen collaborations with academic, public, and special libraries in Bangladesh to provide internship opportunities and real-world teaching experiences for students, linking theory with practice.

6. Conduct Further Research: Future research should focus on longitudinal studies to track the career paths of these empowered LIS graduates and assess their actual impact as IL educators in professional settings. Comparative studies across different LIS programs in Bangladesh and other South Asian countries would also provide valuable insights. Investigations into how digital learning tools can further support IL training in higher education would also be beneficial [58].

By proactively investing in the pedagogical training of LIS students, Bangladesh can cultivate a new generation of information literacy leaders who are well-equipped to guide their communities through the complexities of the modern information environment, thereby enhancing the relevance and impact of the librarianship profession across the nation.

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