BEYOND TRADITIONAL REFERENCE SERVICES: ARTIFICIAL INTELLIGENCE, INFORMATION LITERACY AND NEP 2020 IN ACADEMIC LIBRARIES

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Abstract :

Academic libraries have historically anchored themselves around the reference desk, where trained professionals mediate between a user's query and the vast, often unwieldy universe of recorded knowledge. The convergence of Artificial Intelligence (AI) with library and information services, alongside the sweeping reforms envisaged in the National Education Policy (NEP) 2020, is compelling a fundamental rethink of this model. This article examines how AI-driven tools — from intelligent chatbots and recommender systems to natural-language discovery layers — are reshaping reference services in Indian academic libraries, and how this shift intersects with NEP 2020's emphasis on multidisciplinary learning, digital literacy, critical thinking and learner autonomy. It argues that information literacy, far from becoming redundant in an AI-saturated environment, becomes more central than ever: students and faculty must be equipped not merely to locate information but to evaluate, contextualise and ethically use AI-mediated outputs. The article proposes a conceptual framework linking AI adoption in reference services to the information literacy mandate implicit in NEP 2020, and closes with recommendations for university and affiliated college libraries.

Keywords : Artificial Intelligence, Academic Libraries, Information Literacy, NEP 2020, Reference Services, Digital Transformation, Higher Education

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Introduction :

For a long time, the concept of reference service has been regarded as the human face of the library. Through the years, this service was characterized by the librarian's subject expertise, knowledge of resources and proficiency in conducting reference interviews. As stated in the famous maxim of Ranganathan, 'every reader his or her book, and every book its reader', the reference service was the mediator between the collection and an individual whose needs may be ill-defined and vague.

In the past few years, however, generative AI tools, discovery platforms based on

machine learning and chatbots have entered the world of academic libraries faster than anyone could expect. At the same time, NEP 2020 has changed the focus of higher education institutions in India on critical thinking, multidisciplinary approach, digital literacy and learner-centred pedagogy which imposes new responsibilities on libraries as active supporters of the learning process rather than passive repositories of knowledge. This paper addresses this intersection. Namely, it examines how the shift towards AI-powered reference services affects information literacy and how this development is aligned with the goals stated in NEP 2020.

Justification and Goals :

Three connected developments have made this study timely. First of all, Indian academic libraries are becoming more pressured to modernise their services since there are too little financial and human capital to do so. Secondly, NEP 2020 specifically demands the usage of technology in the processes of education, and the necessity for development of digital and information literacy is emphasised. Finally, proliferation of AI-generated content has raised well-known concerns about misinformation, algorithmic bias and academic honesty, which makes the role of librarian as educator in the sphere of literacy even more important. However, not much literature about the three above-mentioned trends is available in India taking into account the practices within the ecosystem of universities and affiliated colleges discussed in NEP 2020.

In this sense, the current article aims to:

- Investigate how AI is changing the nature of reference service in library and how it relates to traditional reference service.
- Analyze NEP 2020's provisions with regard to need of digital and information literacy, and its implications for library services.
- Identify the challenges related to introduction of AI in library, namely infrastructural, pedagogical and ethical challenges.
- Provide recommendations on how to make reference service enhanced with AI

Traditional Reference Services : A Brief Overview Essay (Article)

Traditional Reference Services and AI with reference to NEP 2020 :

Traditional reference service was based on reference interview, which was a dialog between a librarian and a user during which the former clarified the latter's information request (often considerably differing from what was asked), identified needed resources, and advised how to find or evaluate them. Such service is easy to customize, contextually sensitive, and teaches how to locate and assess information because the human example is involved. Yet, it is hard to scale, reliant on the staff, available only during opening hours, and sometimes intimidating for users who need to feel comfortable approaching a person. These factors limited its use, making it fit only for some particular cases, and prompting the

development of various technologies to complement or replace it, starting with online catalogs and chatbots and ending with powerful artificial intelligence.

NEP 2020 aims to create an educational environment wherein learners receive multi-disciplinary, flexible and learner driven higher education with adequate digital infrastructure and continuous skill development opportunities. While some aspects of NEP 2020 (digital-literacy, credit based flexible learning pathway etc.) directly impact academic libraries, many others indirectly do as well. For example, promotion of research and holistic & multi disciplinary education would significantly influence library practices.

Further, academic libraries are being asked to play more diverse roles going forward as 'active learning spaces' rather than merely providing reference and transactional assistance. In other words, while traditional reference service can be very successful when dealing with individual user inquiries, academic libraries need to focus much greater attention on enabling skills necessary for self directed inquiry, interdisciplinary research and digital competences – all areas where artificial intelligence has huge potential.

When it comes to implementing AI enabled services in a country like India which is home to one of largest universities systems globally, challenges range from scalability to resource issues. Central University Libraries might find themselves having sufficient financial and technical infrastructure to explore AI enabled services, but affiliated College Libraries, especially those located in rural parts and/or under resourced institutions will face significant challenges.

Emerging AI Applications :

Conversational chatbots powered by large language models are handling routine "directional" and ready-reference questions (e.g., about opening hours, circulation policies, database access), enabling staff to focus their energies on more complex interactions.

Recommender systems embedded within discovery layers are surfacing relevant resources based on usage patterns and citation networks, thereby extending the opportunities for serendipity inherent in browsing physical library shelves.

Natural language search interfaces are decreasing reliance on precisely formulated keywords, reducing the learning curve faced by novice researchers.

Tools offering AI assisted summarisation, translation and citations are augmenting research processes at points-of-need. This latter facility is particularly useful when navigating multilingual materials – as occurs frequently among students researching topics related to Maharashtra's rich heritage, where they would be expected to switch fluidly between sources written in English, Hindi and Marathi.

Promises and Risks :

Tools such as these have the potential to provide greater availability (24/7), lessened repetitive workload for staff, and enhanced speed of response to simple queries.

However they also pose challenges that need to be considered and addressed through appropriate design if we want them to serve users effectively while mitigating risks including increased dependence on AI generated answers with no source vetting, opaque recommendation algorithms resulting in limited exposure to diversity of perspectives, disparity in access between urban vs. rural or resourced vs. under-resourced institutions, and dilution of the pedagogical value of the reference interview where essential skill transfer takes place.

Information Literacy in the AI Era: Realigning with NEP 2020 :

In its broadest terms, information literacy encompasses the ability to recognize one's own needs for information and then find, evaluate, and use that information effectively and ethically (ACRL Framework for Information Literacy for Higher Education). Frameworks developed by organizations such as the American Library Association (ALA) and the International Federation of Library Associations and Institutions (IFLA), however, highlight information as a socially constructed resource, requiring both contestation and evaluation before being used (see IFLA Guidelines on Information Literacy for Lifelong Learning).

This notion of information as socially constructed fits very nicely within an increasingly AI-saturated media and information landscape. To begin with, information-literate individuals will need to have skills enabling them to differentiate between information produced by humans versus artificial intelligence. They should also be capable of understanding at least conceptually the limits and potential biases inherent to outputs generated through algorithms, recognizing the tendency of generative models to output plausible but untrue information. Further, they'll want to know how to validate answers provided via AI tools against authoritative/citable sources. In addition, they must have knowledge about using these tools transparently and ethically when undertaking academic work, such as disclosing their usage and correctly citing relevant works.

Taken together, these competencies are remarkably consistent with the vision laid out in India's National Education Policy (NEP) 2020 regarding developing "critical thinkers and ethical reasoners" who engage in life-long learning. Therefore, the provision of information literacy education – particularly through services offered by libraries – can be seen as a powerful way to realize many of the aims of national educational policy without competing with other library functions for institutional support.

Challenges to Implementation in the Indian Context :

Infrastructureal : including issues with inconsistent internet and computing resources particularly within affiliated colleges outside major urban centres.

Financial : the cost to license these kinds of powerful AI-enhanced discovery and reference

platforms potentially beyond those at smaller institutions.

Human Resource : lack of AI-literacy amongst some members of library staff as well as the ongoing nature of professional development requirements.

Pedagogical : the potential for adoption of these AI tools as an opportunity to simply "check the box" on literacy instruction while neglecting to address skill gaps with other interventions.

In conclusion, there are three design principles we propose for integrating AI adoption and IL instruction:

(1) Design AI tools as the first-line-of-triage, addressing only basic tasks, then route more complex, research intensive/evaluative tasks specifically to human librarians to perform the reference interview (which provides maximum pedagogic value);
(2) Ensure each interaction point where an AI tool is used in our library—be it through a chatbot response, a suggested resource or a summed-up abstract—offers a teachable moment, encouraging users to engage in source verification;
(3) Specifically update all forms of information literacy instruction—from orientation programmes, credit-based course work, to targeted workshop sessions—to include AI-specific competencies (as stipulated by the NEP 2020 emphasis on continually updated and relevant skills-focused curricula).

Phased implementation of AI-enabled reference tools and updated literacy modules could also be more feasible for the complex landscape that constitutes a university system with their wide networks of affiliated colleges.

This would begin by piloting these tools within the well-equipped central facilities first and then use the insights from implementing them there as a basis for adopting them across affiliated colleges, while ensuring equity in access.

Conclusion :

In conclusion, while there might be concerns about the obsolescence of the academic reference librarian in an age of artificial intelligence (AI), these challenges also offer opportunities for redefinition and revitalization of the profession.

With the increased use of automation tools for query resolution, reference librarians are uniquely positioned to contribute through teaching and guiding students as they develop critical thinking skills by evaluating sources, engaging in ethical behavior around data usage, etc.

NEP 2020 envisions embedding such competencies within the fabric of Indian higher education institutions broadly. Therefore, moving "beyond the traditional" should not mean abandoning our pedagogical roots but instead building upon them through deliberate design

choices—placing emphasis on information literacy at center stage when implementing new technologies like AI. In doing so, I believe academic libraries will be well-positioned to realize NEP 2020's aspirations more fully than ever before.

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