Digital Infrastructure, Information Literacy, and Self-Directed Learning: The Changing Role of Academic Libraries under NEP 2020

Dr. Bhavna Vikram Maru

Librarian,

Smt. Mathubai Garware Kanya Mahavidyalaya, Sangli

Email: smgkanya.librarian@gmail.com

Abstract: The National Education Policy 2020 (NEP 2020) reorients Indian higher education toward digital integration, learner autonomy, and lifelong learning, placing self-directed learning (SDL) at its core. In this changing environment, academic libraries are evolving from collection-based units to digitally networked learning spaces that actively cultivate independent inquiry. This paper presents a conceptual analysis of how digital infrastructure and information literacy initiatives within academic libraries strengthen SDL. It discusses the expansion of hybrid access models, remote resource delivery, and structured information literacy instruction that enhance students' ability to locate, evaluate, and apply information independently. Student perceptions of resource usefulness and preparedness for digital learning are also considered. Although progress is visible in technologically advanced institutions, uneven ICT access, financial constraints, and staffing disparities continue to affect implementation. The study concludes that sustained investment in digital systems and embedded information literacy is essential to position academic libraries as central drivers of self-directed learning in the NEP 2020 era.

Keywords: National Education Policy 2020 (NEP 2020), Self-Directed Learning (SDL), Academic Libraries, Digital Infrastructure, Higher Education Reforms.

Introduction:

The National Education Policy 2020 (NEP 2020) marks an important shift in India's higher education system. It focuses on flexibility, fairness, digital integration, and teaching methods that prioritize students. A main feature of this shift is promoting self-directed learning (SDL). This approach encourages students to take charge of identifying their learning needs, finding resources, and assessing their knowledge independently. As higher education institutions adopt multidisciplinary and technology-driven methods, developing skills in autonomous learning has become a key educational goal and a necessary structural need.

In this reform framework, academic libraries play a vital role. They were once viewed mainly as places to store books and reference materials. Now, they are evolving into digitally integrated knowledge hubs. The rise of digital tools, like electronic resources, remote access platforms, institutional repositories, and learning management system integrations, has transformed library services. These developments fit well with the main goals of higher education reforms outlined in NEP 2020. These goals focus on accessibility, inclusivity, and lifelong learning opportunities.

Information literacy is a vital connection between digital resources and self-directed learning (SDL). The ability to find, evaluate, combine, and use information ethically is important for successful self-guided learning. Academic libraries play a key role in improving these skills through structured information literacy programs, user orientation efforts, and research assistance services. In this way, they go beyond just providing support to become active partners in the educational process. Nevertheless, achieving this transformative vision is inconsistent. Many urban institutions show progress in digital library systems and hybrid service models. However, inequalities in ICT infrastructure, funding distributions, and staffing levels continue to make fair implementation difficult in various areas. These structural shortcomings highlight the need to explore how academic libraries can be strengthened as key parts of India's higher education reforms.

In this context, the present study investigates the evolving role of academic libraries in fostering self-directed learning within the framework of the NEP 2020 policy. This paper seeks to redefine the position of academic libraries as vital contributors to India's educational landscape, which is progressively emphasizing knowledge, by incorporating digital infrastructure, information literacy, and institutional reform into a unified analytical approach.

Conceptual Framework:

i. NEP 2020 and Changes in Higher Education:

The National Education Policy 2020 (NEP 2020) suggests a complete overhaul of India's higher education system. It emphasizes flexibility, multidisciplinary approaches, digital integration, and student-centered learning. Key principles of these reforms involve giving institutions more freedom, allowing multiple entry and exit points, blending vocational and academic pathways, and encouraging research-focused universities. These changes greatly impact the roles of academic libraries. As institutions adopt multidisciplinary models and technology-driven teaching and learning environments, libraries need to go beyond traditional collection management. They must focus on digital scholarship, remote access, research support, and inclusive knowledge sharing.

A key aspect of NEP 2020 is promoting learner autonomy. The policy allows students to create personalized learning pathways through credit mobility and interdisciplinary courses. The Academic Bank of Credits (ABC) supports this flexibility by enabling the transfer and accumulation of credits between institutions. These changes require a solid digital framework and resource compatibility, placing academic libraries in a crucial role to provide easy access to information across different fields. In this context, libraries serve not just as support but as vital components of reforms in higher education.

ii. Theoretical Principles of Self-Directed Learning:

Self-Directed Learning (SDL) is a process where individuals take charge of their own learning. They assess what they need to learn, find resources, choose methods, and evaluate their results. This approach emphasizes independence, self-management, and intrinsic motivation. SDL matches the goals of NEP 2020, which focuses on independent inquiry, critical thinking, and the value of lifelong learning. The foundations of SDL come from adult learning theory, particularly Malcolm Knowles' idea of andragogy. He believed that adult learners are self-driven, goal-oriented, and able to direct their own education. Knowles also stressed the importance of experiential learning, readiness to learn, and problem-centered methods, which connect well with today's higher education systems.

Constructivist learning views support self-directed learning (SDL) by saying that people actively build knowledge through interaction, reflection, and relevant engagement. In digital settings, SDL skills include navigating information, critically evaluating online sources, using information ethically, and being technologically fluent. Academic libraries, with their digital tools and organized information literacy programs, are important in developing these skills. This helps students become independent learners in a fast-changing knowledge society.

Digital Infrastructure in Academic Libraries:

i. Digital Readiness of Indian Academic Libraries:

The integration of digital infrastructure in Indian academic libraries has been growing due to the impact of NEP 2020, though there are major differences among institutions. Digital resources like online journals, e-books, and subject databases have become vital parts of library collections. This growth has been supported by various subscription models, such as consortia-based access and institutional licensing agreements. The number of institutional repositories has increased; these serve as open access archives for theses, dissertations, and faculty research. This rise has improved visibility and helped with research communication. Remote access systems, including VPN services and cloud-based platforms, enable students and faculty to use digital resources from off-campus. This aligns with students' preferences for flexible information access and promotes self-directed learning. Collaboration with learning management systems (LMS) has increasingly brought library resources into educational workflows. This integration allows easy access to digital content through course platforms. However, the development of these systems varies greatly. More prestigious universities demonstrate advanced digital integration, while many colleges struggle with limitations in their infrastructure. In every case, improving digital readiness has significantly boosted students' ability to engage with information independently. This development is crucial for connecting digital access and self-directed learning (SDL) skills.

ii. Hybrid and Smart Library Models:

Academic libraries are increasingly incorporating hybrid models that combine both physical and digital services to cater to a variety of user needs. The blending of physical and digital elements is apparent in services where classic reading areas are complemented by digital workstations, multimedia labs, and collaborative learning spaces backed by high-

speed networks. Innovative library solutions, including AI-driven search systems an   d discovery tools, enhance the accuracy and relevance of information retrieval, allowing users to explore extensive digital collections more effectively. Digital reference services and virtual assistance—such as chat-based help desks, online research consultations, and tutorial resources—broaden the institution's ability to provide support beyond traditional reference desks. These hybrid systems enable self-directed learning by offering users on-demand, tailored guidance that facilitates independent inquiry and research behaviors.

iii. Urban–Rural Technology Gap:

Despite progress, gaps in digital infrastructure remain across different regions. This significantly affects fair access to library services. The integration of ICT in urban academic institutions is generally further along. These institutions benefit from stable internet access, significant funding for digital resources, and effective technical support teams. In contrast, many rural and smaller colleges face challenges like poor broadband access, outdated technology, and limited funds for digital licenses. These differences greatly impact self-directed learning. Students in poorly equipped environments struggle to access electronic resources, remote platforms, and online library services. Gaps in funding and infrastructure worsen the digital divide. This divide makes it hard for academic libraries to function as knowledge centers. To address these issues, we must implement targeted policy measures, invest in ICT infrastructure in rural areas, and support collaborative efforts. This will ensure fair access to information literacy and digital resources, improving self-directed learning outcomes for all students, as outlined in the NEP.

iv. Information Literacy for Self-Directed Learning:

Information literacy (IL) serves as the intellectual basis for self-directed learning (SDL), especially in the context of the National Education Policy 2020, which emphasizes learner autonomy and ongoing education. SDL necessitates that students autonomously determine their learning requirements, find appropriate resources, assess information critically, and effectively utilize knowledge. These skills are fundamentally grounded in information literacy competencies. Essential IL abilities comprise advanced searching methods across various databases and digital platforms, the capacity to distinguish between scholarly and non-scholarly sources, critical assessment of credibility and bias, as well as the ethical application of information through accurate citation and adherence to academic integrity. In environments heavily influenced by digital media, learners are also required to navigate algorithm-based platforms, handle information overload, and integrate different viewpoints—competencies that directly enhance self-directed inquiry.

To develop these skills, academic libraries are increasingly embracing embedded instruction models. Information literacy programs that are integrated into the curriculum align IL training with course goals, ensuring that skills are cultivated within context rather than as separate workshops. Librarians work alongside faculty to create research assignments, deliver specialized database training, and incorporate resource guides into learning management systems. Additional initiatives, including workshops, online tutorials, and virtual research consultations, enhance support, allowing students to interact with information tools at their own pace. These educational interventions convert libraries into proactive educational partners instead of merely passive service providers.

Measuring the impact of information literacy on SDL involves examining indicators such as student preparedness to undertake research tasks independently, confidence in navigating digital resources, and demonstrated independent learning behaviours. Students who receive structured IL support tend to exhibit stronger problem-solving abilities, improved research planning skills, and greater academic confidence. Thus, the integration of information literacy within academic library services is central to fostering self-directed learning and advancing the broader objectives of higher education reform.

Transition from Academic Repository to Learning Ecosystems:

The evolution of academic libraries from conventional storage facilities to vibrant learning environments signifies a major change in higher education influenced by the National Education Policy 2020. Previously, libraries were mainly concerned with acquiring, organizing, and circulating printed materials. However, with the emergence of digital educational settings, interdisciplinary programs, and self-directed learning (SDL), their roles have expanded beyond merely storage and access. Modern academic libraries now incorporate digital repositories, electronic resources, collaborative study areas, and technology-driven services to facilitate inquiry-based and flexible learning approaches. This transition marks a shift from merely providing information to actively promoting knowledge creation.

As learning ecosystems, libraries blend physical and virtual facilities to create interactive, learner-focused spaces. Cloud-based platforms, remote access systems, integrated discovery tools, and learning management system connections offer easy access to information across various fields. Librarians are taking on more roles as research mentors, digital guides, and information literacy teachers. They work with faculty to weave research and critical thinking skills into the curriculum. In this new setup, academic libraries play a key role in achieving institutional learning outcomes. They boost independent learning and closely support the transformative goals of NEP 2020.

Changing Professional Role of Librarians:

The professional identity of librarians has significantly changed due to reforms in higher education and the digital growth prompted by the National Education Policy 2020. Once primarily seen as guardians of collections tasked with acquiring, cataloguing, and lending materials, librarians are now increasingly taking on roles as facilitators of learning and partners in academia. In educational environments focused on self-directed learning (SDL), librarians actively assist in research design, help with information discovery, and take part in initiatives that embed information literacy into the curriculum. Their involvement goes beyond mere service delivery to include mentorship, consultations on research, and the development of academic skills, thereby strengthening the library's position as a key pedagogical ally within educational institutions.

This changing role requires strong digital skills and ongoing professional training. Today's librarians must handle electronic resource platforms, institutional repositories, data analysis tools, plagiarism detection systems, and library management software. Knowing about artificial intelligence-enabled discovery systems, digital preservation methods, and research impact metrics is becoming more important. As a result, organized professional development programs, ongoing training in new technologies, and involvement in academic networks are vital for staying relevant. Building digital skills and promoting leadership among librarians are key to making libraries dynamic learning environments that effectively support independent and tech-driven higher education.

Policy Gaps and Implementation Challenges:

While the National Education Policy 2020 presents an ambitious vision for integrated and learner-focused higher education, putting this vision into practice in academic libraries highlights several policy gaps and structural issues. Although NEP 2020 stresses the need for technology use, multidisciplinary education, and learner independence, it lacks a specific, detailed plan for modernizing library systems. The lack of clear national standards for digital library infrastructure, information literacy, and staffing has led to inconsistent implementation in different institutions. As a result, many libraries still operate without clear digital strategies that connect to the larger reform agenda.

Implementation challenges are notably apparent in the disparities associated with funding, ICT infrastructure, and human resource capacity. Institutions in urban areas with stronger financial resources show a higher readiness to embrace hybrid models, remote access systems, and integrated learning platforms. Conversely, rural and smaller colleges struggle with limited broadband access, inadequate hardware, insufficient budgets for subscriptions, and a shortage of trained digital librarians. These infrastructural and staffing challenges have a direct impact on the fair promotion of self-directed learning (SDL), as students in less-resourced environments face obstacles in accessing digital content and organized information literacy support.

Moreover, the professional development opportunities available for librarians are often inconsistent. The swift pace of technological advancements necessitates ongoing skill enhancement in areas like data management, digital preservation, research analytics, and instructional design; however, there is a lack of systematic, nationwide training programs. In the absence of coordinated policy measures, continuous funding, and structured evaluation frameworks, the transformative vision for libraries presented in NEP 2020 may not be fully achieved. It is crucial to address these shortcomings to ensure that academic libraries can effectively aid in the development of digital infrastructure, improve information literacy, and promote self-directed learning outcomes across various educational settings.

Conclusion:

The National Education Policy 2020 changes higher education in India by focusing on digital integration, flexibility, and learner autonomy. It places self-directed learning (SDL) at the heart of academic transformation. In this setting, academic libraries become important support systems instead of just storage places for books. With improved digital infrastructure, integrated information literacy programs, and various service models, libraries aid in independent inquiry,

critical thinking, and research skills. However, uneven access to information and communication technology (ICT), funding issues, and gaps in professional skills still slow down progress. Closing these gaps through targeted investment, policy support, and ongoing professional development is crucial. In the end, making academic libraries strong and well-integrated learning environments is key to turning the vision of NEP 2020 into real, inclusive, and lasting educational results.

References:

Acharya, Shivakumar & Vagdal, Tippanna. (2023). The role of academic libraries in the context of national education policy (NEP)-2020. IP Indian Journal of Library Science and Information Technology. 8. 32-36. 10.18231/j.ijlsit.2023.006.

Asif M, Singh KK. (2022). Libraries @ National Education Policy (NEP 2020) in India. IP Indian Journal of Library Sciene and Information Technology. 2022;7(1):18–2.

Chakraborty, M. (2022). Democratic learning spaces: Repositioning libraries in India's new education framework. Library Philosophy and Practice, 24(1), 67-81.

Chakraborty, M., & Das, S. (2022). Library research support services and institutional research output: A correlational analysis. Journal of Academic Libraries, 35(2), 118-136.

Itsekor VO, Jegbefume MC, Oyebola OJ. (2019). The role of librarians in the implementation of the national policy of education. Library Philosophy Practices. 2019;p. 1–19.

Itsekor VO, Jegbefume MC, Oyebola OJ. (2022)The role of librarians in the implementation of the national policy of education. Lib Philosophy in India. IP Indian Journal of Library and Information Science Technology. 7(1):18–2

Kattimani, P.S. and Jain, V. (2025). The Role of Libraries in the Implementation of the New Education Policy. Journal of Informatics Education and Research Practices. 2019;p. 1–19

Llewellyn, A. (2019). Innovations in Learning and Teaching in Academic Libraries: A Literature Review. New Review of Academic Librarianship, 25(2–4), 129–149. https://doi.org/10.1080/13614533.2019.1678494

Ministry of Education, Government of India. (2020). National Education Policy 2020. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf

Shahzad, Azka & Shubha, Tuhin Ahmad. (2023). National Education Policy 2020 and Libraries.