**Information and Communication Technology in Library and Information Science Education: Issues and Challenges**

**Abstract**

The COVID-19 pandemic introduced a seismic change happening in Library Environment. This cohort study discusses the issues influencing the status of Library and Information Science instruction and recommends ways to solve these issues and the approaches to prepare the Library and Information Science professionals to confront the developing challenges of the work advertise. With the increasing dominance of Information and Communication Technology in Library and Information Science Education gaining an understanding of the environmental impacts of the formats has become critical. This systematic literature review synthesizes and integrates Library and Information Science Education to develop manpower for effective and efficient management of Libraries & Information centers. This study aims to provide stakeholders with more valuable information that is necessary to make environmentally informed decisions.

**Keywords:** Curriculum design, Education in India, Efficient Management, Information and Communication Technology, Library and Information Science.

**Introduction**

Education and library are deep-rooted and cut across and contribute to all areas of research, the citadel of individualism, changing dimensions of social, economic, cultural, recreation, leisure, political life, religious and spiritual pursuits giving everyone equal access to services, resources, and information in the modern society. The library has the motherhood status in the knowledge-based information technology-driven society. The library is in a position to serve almost all sectors of socio-economic development and the disadvantaged groups are not an exception. Library and Information Science (LIS) Education play a more vital role in user communities than ever. Dr. S. R. Ranganathan, the father of library science, documentation, and information science in India emphasized the need for libraries to grow. LIS educators and librarians are primarily responsible and should be the first to professionally grow and develop. Information and knowledge being a strategic tools, the role and responsibility of the LIS professionals are at the push of transition from its traditional and ethical rigidity. This can be done if they are aware of how patrons assess their skills as they carry out their roles and responsibilities. LIS professionals share the responsibility of curriculum design, planning, teaching, and evaluation with other professionals in the building. It is virtually impossible to deliver or receive formal education without the application of Information and Communication Technology (ICTs). This study aims to fill in the literature gap by examining the impact of LIS education in India.

**Objectives**

The particular aims of the study are as follows:

1. ICT has a significant impact on building essential skills.
2. Access to digital resources depends on the motivation and orientation program of the LIS education.
3. Inspire excellence in student and librarian services.

**Review of related literature**

COVID-19 crisis has speeded the adoption of ICTs, particularly the Internet and other related technologies, bringing about a fundamental and dramatic shift in the global educational system. This fundamental shift has manifested in the form of online learning where the computer system, the Internet, and the Intranet are used as ICTs tools for teaching and learning. Bhabal (2008) depicted that E-learning has become quintessential and implemented in every field from Space to Government. Thus, the new trend of ICTs has also impacted E-learning in education including in the Library and Information Science fields. Abubakar and Hassan (2011) noted that in the field of education in general, ICTs have made a tremendous impact on the way research is conducted. Hansen (2008) explained that several efforts are currently progressing towards providing quality distance learning to more people in urban and rural areas by utilizing more effective web resources and practices. The major barrier to the adoption of e-learning can be accredited to the Indian mindset that is more willing to traditional classroom teaching.Rosenberg and Foshay (2002) defined E-learning as the use of internet technologies to deliver a broad array of solutions that enhance knowledge and performance. Solutions are networked, which means instant updating, retrieval, distribution, and delivery to computer users with standard Internet technology. The study of Waterhouse (2005) outlined that E-learning entails improving teaching and learning using instructional strategies enhanced by ICTs tools. Huang (2010) discussed E-learning as an alternative to traditional instruction for students who want to pursue a part-time postgraduate program, but who are hindered because of job responsibilities and time factors. Singh (2003) outlined the problems affecting LIS education and suggested ways to overcome them and prepare LIS professionals for the growing job market.

To improve pedagogical practices in online learning, insights gained from the analysis have been used to create a better e-learning solution in Library and Information Science. It is an indisputable fact that the application of ICTs to the delivery of education worldwide has become so central to modern education delivery that it is virtually impossible to deliver education without such technology.

**Online learning LIS Education in India**

Due to the rapid expansion of research and development activities in the field of information and communication technology (ICT), the scope of LIS education in India has changed dramatically. For quality improvement of LIS education in India, the scope of LIS education in India must be expanded. It is important to introduce a new curriculum design based on ICTs in different LIS schools in India to meet new challenges. Technology has not only affected operations of library services but LIS education as well. There is a need to integrate qualitative changes into LIS education.

* To prepare LIS students for the demands of the digital environment by increasing their excellence.
* LIS professionals must contend with challenges owing to the growing influence of ICT in the LIS field.
* Train LIS professionals to meet the increasing demand.
* Improve the career prospects for LIS professionals.
* Take advantage of internet-based E-learning courses that grow each day.
* Embrace and advance E-publishing which is being quickly acknowledged by the journals.

**Curriculum design**

Curriculum changes in LIS are a well-accepted and continually occurring phenomenon in India. UGC has emphasized curriculum design for LIS departments and university and college library development since its inception, according to a review of the literature. As an example, the Ranganathan committee on Library science education is best known for its "Library science in Indian Universities" (Ranganathan, 1960). Now, almost all of the universities in India have common syllabi for teaching the LIS subjects. The present curriculum and teaching in India still have some gaps at some level for which LIS professionals in India have yet to get satisfaction.

**Issues and challenges of LIS education**

In the digitized environment, LIS education in India should have the following vision.

* Development of online education for the LIS program, as well as online teaching and Learning.
* Enhancing the confidence and competencies of professionals through mentorship by giving knowledge of the latest ICT tools.
* Implementing modular courses to keep up with the latest developments in the field.
* Research topics should be connected to the issue more extensively when deciding the research topics.
* Securing the future of the India LIS profession ethically.
* A face-to-face mode of instruction is also found not to be the most efficient method because of advances in ICT.

**Conclusion**

In the 21st century, LIS professionals are faced with changing information needs and demands. Online learning is a global phenomenon and LIS education in India needs to avoid confrontations. Various factors strengthen the forces of change, like new technologies, and demographic and economic factors. Teaching and learning strategies have been amended to accommodate these changes in LIS education in India. The adoption of online teaching and learning in LIS education is a strong indicator of technology development. For a developing country like India, creating a new curriculum design is challenging, and LIS educational materials for online learning. It is a challenging task, but once put forward, it can easily overcome all its challenges. LIS education in India is making gradual but steady progress as well with society becoming increasingly more reliant on technology, it is incumbent upon librarians to harness the power of digital innovation in order o create school cultures that are inspiring. In India, LIS online teaching and learning will be boosted by the availability of adequate and appropriate infrastructure. Education in India should encourage the use of new technology to prepare professionals capable of managing knowledge resources in an online teaching and learning environment.

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