# EDUCATION AND TRAINING FOR INFORMATION EMPOWERMENT SPECIALISTS IN THE NETWORKED SOCIETY: INDIAN EXPERIENCE

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### 1. Introduction: A "Search for Identity" Revived

A profession since its genesis is in "search of identity" even though it has been an integral part of early civilization, partnered in societal and economic transformations and has adopted and adopted contemporary technological innovations. It has constantly adopted to all changes hence has been in ever transition. It is worth recalling here the quotation of T.S. Eliot, "Where is life? we have lost in living. Where is wisdom? we have lost in knowledge. Where is knowledge? we have lost in information. This, as a corollary be attributed to state, "Where is Librarianship? we lost in Digital Libraries. So much so, the world is embossed with the new technological era, that the profession is confronted today with. It is not only due to convergence of technologies but a convergence of professions.

Many convergent factors have influenced it over again and again. Some are from within yet many are from outside. Aristotle, Plato and Callimachus were all ancient legendaries and in the middle ages, Guttenberg, Francis Bacon, Emanual Kant were all outsiders. In the modern era, the names of J.C.Liklider, H.P.Luhn, Vannever Bush and Gerald Salton shown and influenced the profession to a very great extent. Hence today it has turned out to be a multi-convergent profession, yet its search for identity still pursues. In this context to structure a duly dynamic curriculum for manpower development is truly a complex task. This has been a consistent concern of Library and Information Schools. It is observed in the light of the above deliberations that all over the world, a serious exercise to review the status of Library and Information Science education is on the anvil for over last two decades due to the impact of Information Technology and with the emergence of Information Society.

In early 1980s the Library and Information Council (LISC) of UK recommended to "review the future manpower training requirements for Library and Information Work," and as such a Working Party deliberated on this topic which resulted into generation of number of Keynote Papers, Discussion Papers. Beginning with this decade also an awareness in this context has been on the increase, persistent efforts are made in the task of development of education and research in Library and Information Science globally. It is reported by Johnson "that schools of Librarianship and Information Studies are not playing the role they might be expected to play in the emerging Information Society", and further to state, "it will be necessary to review the development which have taken place in teaching, and the extent to which the schools are involved in relevant research activities". This paper reviews the status of British national schools of Librarianship in national and European context. As of above one or two studies of similar nature are also observed from USA.

#### **Need for Enhancing Competencies**

Generally speaking any human endeavour requires manpower, finance, technology/knowledge and infrastructural facilities. Of these human resources is the most valuable, for it enabled the identification, selection, development and control of all other physical resources. Intellectual resources. Any plan-sectoral or overall for national development should therefore give due emphasis to the development of manpower with appropriate professional knowledge and skills. This applies equally in Education and Training to Library and Information manpower. In a fast changing world, there are new demands and influences on library and information centers. The profession needs to meet

the challenging and ever changing demands of society through the application of new knowledge, tools and skills that are developed by societal demands and in other areas. Over the decades education and training for library and information work has focused upon recordable information and knowledge and the services and technologies to facilitate the management and use. Preparation for the profession has evolved, like most other true professions, from the apprenticeship mode to formal degree programmes in institutions of higher education. The revolution in computers, communication sand content at the end of 20th century has had a dramatic impact on the information profession.

It is a recoginised fact that the new technologies make some information services more directly available to the end user. Indeed the increasing range of electronic information is based on the willingness of individuals and organizations to attempt to sell their information products directly to the end user. In such a situation future library and information professionals are expected to assist the users;

- 1. By providing them with carefully and well organized information particularly electronic information.
- 2. By providing information which has been evaluated and repackaged to meet their needs precisely and above all.
- 3. By facilitating their use of both the technology and information. Information professionals are to play a more significant part is a "learning society".

Hence they must have well developed training and facilitating skills, to help people to use not only libraries but also information sources in different forms and formats. This is to say that training of professionals be considered as the training for 'Information Empowerment Specialists' rather than 'Bibliographic Instructions

Advocates'. The task of library and Information Science teachers is primarily to impart that education which transfer the professional skills of acquiring and using information in a networked society.

#### **Indian Efforts**

A similar kind of paradigmatic change is emerging in India in education on manpower development programmes in Library and Information Science. It may be emphasised also that India is going to play a significant role in this context particularly in the Asia-Pacific Region. As per UNESCO report and as highlighted by Wing there are significant overtones expressed on the prevailing situation in the region about the status of Library and Information Science education. Hence India has specific role here, and therefore there is need for its Library and Information Science Departments look- forward to the Library and Information Science Education.

In India a countrywide exercise was made to articulate the knowledge(theory, skills and practicals) which could be packed in the Library and Information Science Education and Training Curriculum with the help of the experts. The well defined modules prepared by the expert committee(subject panel and Curriculum Development Committee) were presented before the forum of chairpersons of the Board of Studies(Library and Information Science) in different Universities. This has facilitated the debate and enabled to develop a viable curriculum beating the balance between the traditional and modern practices, skills and techniques.

### **Phases of Change:**

Phase One: 1960-70

The three factors, the enactment of Library legislation by number of States in the country, the UGC assistance to college and university libraries towards the development of academic library system in the country, and Documentation work and services, were responsible for the first phase of development. The Library Legislation in number of states potentially enhanced the employment opportunities for qualified Library professionals in Public Libraries. The UGC initiated review on working of University and College Libraries and also the status of Library Science education during late 1950's and in early 1960s. Two Review Reports were the outcome of this exercise. They not only identified the importance of Libraries in Higher education, but also helped to enhance the status of Library staff working in College and University Libraries. Librarians in academic libraries were given the equal status on par with teachers in the respective educational sectors. This was a revolutionary step and led many University Departments to start Masters Degree courses in Library and Information Science as younger generation were inducted to pursue this profession.

The period also saw the emergence of a new area of study, "Documentation". Ranganathan vividly narrates the situation how he was attracted to this subject and that led to infusion in Library science courses. The practice of "Documentation in action", he observed in many industrially advanced countries. This in fact influenced the concept of Special Libraries attached to industries and research centres. During this period number of National Laboratories were established under Council for Scientific and Industrial Research (CSIR) and large scale industries also came-up during the period. Realising the

need for Documentation Service to these Research centres and industries a national documentation centre was also established under CSIR. The establishment of Indian National Scientific Documentation Centre (INSDOC, 1952) was the result, and this added another dimension and a new area of activity to the profession.

These three factors have not only enhanced the professional status but also increased the employment opportunities for the library science professionals in public, academic and special libraries in the country. They also brought in contrasting differences in the professional approach in Library Science from that existed in its early years. The influence of these subjects is also reflected in the curriculum of Library Science education and that subsequently also led to the change in the course content and nomenclature of the course. Many University Departments of Library Science upgraded the P-G Diploma in Library Science to Bachelors Degree during this period. The INSDOC and DRTC courses were also started in this decade that made the beginning of specialisation in education too.

From mid 1970s the emphasis was laid on information component and to the facets of information collection, storage and retrieval aspects. The mechanisation in these areas was also an added factor. The decade of 70s especially is very important in the context of Library Science and as it brought the change in its nomenclature from Library Science to Library and Information Science. The professional status and education programmes started receiving global attention because of internationalisation of Information and also due to the involvement of Inter-governmental agencies such as UNESCO, UNIDO, and FAO, in the Information handling activities. The establishment

of International Cooperative Information Systems like, INIS, AGRIS and DEVSIS under the umbrella of UNISIST Philosophy was a clear indicator to this fact. This shifted the emphasis of Library and Information profession from national level to that of international level. The status of the profession, as already indicated, also changed from its earlier concept of Librarianship to Library and Information Science.

The induction of Information Science also set to include information related organization system offering specialised services. The establishment of Data banks, Information Analysis Centres and Translation Centers and others marked the beginning of a new milestone in the global view of information activities. In summary it implied that the Library Science manpower development programmes had to include the areas from traditional to modern subjects and the education programmes have to be remodeled to the contemporary requirements. So the importance of Library and Information Science manpower development programme has been looked with much more significance and the status of the profession reached new heights during this period.

#### **Phase Two: 1980s**

The second phase of professional development begins with the advent of microcomputers in Libraries in mid 1980s. The mechanisation, which was already a part of Information collection, storage and retrieval techniques received a boost with the use of microcomputers. The services offered to the users became more effective and visible. This also brought in another shift in the professional approach, from Information oriented services to the user oriented services. The impact of the machines on services to the users was considered to be major area of discussion, besides its beneficial uses.

The adoption of new storage technology in the form of optical media created a greater impact on this field. This combined with computer and communication technology totally revolutionised the subject to highly reckonable field of an international status and a field equal to be called as Information Science and Technology.

#### **Emphasis on Practice**

The issue of the relationship between theory and practice is not properly addressed in the Indian context. An expert once stated that we are drowing in theory at library schools not giving enough exposure to practice. The dilemma lies in the choice between teaching students the knowledge and skills needed in their first posts which meets immediate needs of employers or instilling principles from which they can expand their skills and knowledge base as their career develops.

# **Interdisciplinary Approach**

It is also seen that the challenge of managing the complex and diverse new environment, some of the schools have been merged with different disciplines like information management and technology, information studies and mass communications. Given the pace of change in the nature of library and information services, there is a need to instill not only in building library professionals, but also in established practitioners a commitment to life long learning, because the circumstances are demanding greater professional and technical awareness. As professional obsolescence becomes a real and ever present danger, only a systematic continuing education provides a method of combating of such obsolescence.

In the western countries may schools have made a through revision and development of course programmes and also introduced new courses to meet the needs of employers in industries, public and private sectors. The introduction of new programmes should therefore be seen to some extent as reflecting the 'Pull-Push Effect' of recognition, increasing need for professional workforce to match the growth and significance of information industry and the expanding higher education system to provide the appropriate workforce.

Across the world, it is seen that wide range of courses beginning to map on broad paradigms. Several schools have begun to diversify their portfolio of courses, with programmes intended to serve the needs of the publishing and communication industries. And other schools have established programmes focused on the operation and management of telecommunications and computer networks.

### **Blending Tradition With Technology**

A proposal to blend the traditional activities with the new roles in the technological environment has been spelt earlier. It is very clear that the scenario of Library and Information Centers and the services provided by them is undergoing a transformation primarily due to emergence of new media. The information needs of user community and the overall changes that have taken place due to need based adoption of IT, the work in the libraries has also necessitated to make appropriate changes in the Library and Information Science syllabus for various levels of courses. These factors invite serious attention of our Departments of LIS, who produce manpower for managing Library and Information Centers. It is a common feeling that the Departments of LIS

have continued to lay more emphasis on teaching of traditional subjects, philosophical aspects and historical topics to their students, and that teaching with emphasis on information technology and the practical aspects of Library Automation has been receiving meagre share in the syllabus. This scenario and feeling have caught the attention of Library and Information Scientists and have generated discussion on need for change in LIS syllabi. Two divergent views as below are expressed:

- a) The Library and Information Science professionals are required to possess necessary skills to harness the IT tools and techniques, it is therefore the responsibility of LIS schools to bring radical change in their syllabus by incorporating the theoretical and practical aspects of automation and networking including software development, database management, information search through national and international networks, CD-ROM, digital libraries, electronic publishing and so on.
- b) The second view is that there are also expressed opinions that in this country most of the libraries are required to continue with traditional management and organization of their activities. Majority of our manpower need to manage libraries in traditional way where classification, cataloguing, circulation and other activities will have to be continued. It is also pleaded that a discipline received recognition and accepted to be recognized as a discipline on the basis of theoretical base and inherent philosophy of its own, has a reckoning among other disciplines. For example, all the disciplines and subjects ranging from Natural Sciences to Behavioral Sciences have been founded on some philosophy, principles and techniques. Library Science can also claim a distinguished position

among other disciplines on its own philosophical and classificatory components such as the Five Laws, Modes of formation of subjects etc., which are the foundation on which rest the pedestals of Library profession and the discipline of Library and Information Science.

Similarly, the importance of teaching historical aspects such as history of library movement, history of catalogue code development are also like cultural heritage of our profession and discipline of which the students should be aware. Proper weightage to these components in LIS courses is therefore necessary in order to ensure proper recognition of our profession and discipline. So in the case of Library and Information Science which is based on sound philosophical base and strong theoretical and technical roots cannot ignore the roots but has to harmonise them with recent developments.

The two views presented above have their own merits and demerits. Revision of syllabus is therefore required to be undertaken very cautiously with a break-even manner, not entirely overawed either by the invasion of IT or by majority attachment to various philosophical and historical components. Need of the day is to determine as to under the available time for various levels of courses, how much of the traditional components should be retained in the syllabus.

## **Influence of Other Disciplines:**

Library and Information Science has developed its own professional techniques and methods. It has shown its affinity towards the application of other fields to improve professional performance. In early 1960s Library Science invited the theoretical and philosophical approaches of other disciplines and implanted them in its core. It was

Ranganathan who infused scientific method in the field and that marked the first change, from Librarianship to Library Science. He is also responsible to introduce the concept of documentation as slanted to library science, to emphasise on pinpointed service to specialist readers.

One of the earliest disciplines that has made a strong influence on Library Science was the Management science. In the later years the statistical techniques and the methods of research were gradually implanted in the Library Science curriculum as the research in Library Science gained momentum. The impact of statistics on Library and Information Science need not be over emphasised here. Library and Information Science is one of the earliest fields to adopt statistical techniques in administration, in the study of users and their information needs and behavior and in research methodology. The statistics is responsible for the emergence of new areas like, Bibliometrics, Informetrics and Scientometrics, so on. Another discipline that has outwardly influenced Library and Information Science is psychology. The study of users which began in late 1940's was rather quantitative but the mode of study changed considerably in 50's and 60's and in the present times there is a paradigm change in its application, oriented to Information Technology environment, to study the behavioural aspect of the user. It may be particularly noted here that the present studies include very specific areas such as cognitive processes, Information seeking behaviour of users in the Information Technology environment and so on. The emergence of Information Society has extended the horizon of Information Science field to the study of socio-political and economic aspects of Information. Similarly the influence of socio-politico-economic aspects has in the study of transborder information flow. In summary it can be stated that, the major

disciplines that have become the part of LIS curriculum are; Management Science, Information Technology, Statistics, Linguistics and Psychology.

A transition shift from agriculture to industrial base, to an economy, based on Information Technology also influenced Governmental policies and programmes, and are directed to production and distribution of information. All these factors have contributed to the emergence of new areas termed as; Information Science, Information Society and Information Technology, with a common denominator 'Information' which has the reckoning of an economic power. Genesis of all these manifested transformation would be attributed to Library Science and Information Science which has traditionally carried out the task of collection, and distribution of information held in by the printed documents. The times have changed and the emergence of electronic media has opened up new avenues, and have also made to rethink on manpower development programmes in this and selected other fields. The time is therefore ripe to consider all these aspects now, in framing a curriculum for LIS discipline

The new requirements are viewed also in the context of the development of library networks and WWW, which means that information professionals should turn their attention to what the Information Technology Task Force of the Government of India have referred to as 'Content Creation and Development'. The ability to design and develop information products for the network environment including the WEB will be an essential requirement expected of the information professionals of the future. There has emerged in recent years, a broader environment – which includes the library but is not limited to it – that offers tremendous opportunities for the application of information

accessing and handling skills. In this context, to view the library as the institution for which professionals are being trained is to take an extremely restricted view of the scope for the application of information organizing and handling skills.

The findings of the European Commission on the growth of the information industry classified it into three broad areas, viz., Information Content Industry, Information Delivery Industry and Information Processing Industry. It is also necessary to work out similar strategies in Indian context. The Information Content Industry is primarily concerned with the developing products for the WEB and on-line environment. This segment is in its early stages of development in India, and offers plenty of scope for growth. The Information Delivery Industry consists of the creation and management of telecommunication networks through which information is transferred and delivered. This segment has received considerable attention in India in recent years and is in a position to enable the growth of the Information Content Industry. The Information Processing Industry consists of producers of hardware and software. According to the European Commission, the Information Content Sector accounts for nearly half the information industry and is growing. The message for India with its vast manpower resources is clear.

## **New Applications:**

The profession which began with an objective of preserving the recorded knowledge of human civilization adopted a philosophical motto that the Knowledge (Books) is for use, and then providing global access to information. During the course of this three fold transformation it has adopted the contemporary societal, economic,

technological and educational changes in its application. These efforts have enabled it to acquire the capabilities of adopting them in the courses of teaching due to their imminent application in practice.

The management of Library and Information Centers has assumed a new dimension due to adoption of different services directed to different kinds of Information needs and of different kinds of users. This can be considered as a direct impact of economic development and the growing dependency of information on national economy. As stated in the report "Library and Information entering into new phase" that in the modern economy the importance of information has increased and which calls for better use of existing services, and continuous improvement of information serves to meet the explicit and implicit needs.

The impact of Management Science has been of a significant achievement in the profession of Librarianship. Apart from the application of principles and functions of Management, the areas of human resource management, financial management and the aspects of information resource management has been considered as important areas in Library and Information Science in recent years. As observed in the context of industrial and production management the application of quality standards is also now being applied to the library services. There are also high expectations of "Quality" in the library services. The first impact of Information Technology on Library and Information Science begins with computerisation of libraries.

The computers were successful in processing and retrieval of information, but restricted their work "In-house". The major change was brought in by the application of

Communications and Storage Technology. The impact of Information Technology and its varied changes in application cannot be expressed in these few pages but can be envisaged by the services available today through INTERNET. The impact of INTERNET on Library and Information services and the concept of digital or virtual library should be reckoned as the nascent fields of study in recent years.

The narration in the preceding sections is only a gist of what has happened during the last 3-4 decades and it reflects a cumulative impact on Library and Information Services. It can definitely be stated here that no other subject field has carried along with it the traditional as well as the modern techniques, simultaneously for such a long period. Therefore it became increasingly important to implant all these aspects in the teaching programme. The impact of any new technology can be seen from the transit it has brought from its earliest vision to the modern version and that would help in preparing a blueprint for the present status and future paradigm of the profession.

The background knowledge presented in the earlier sections provides a picture of total transformation in the profession. It may also seen to be unpredictable that what course of future developments or the direction in which the Library and Information Science profession is going to take. In the light of these developments it is necessary to examine the adequacy and appropriateness of the present curricula. In the first place it is necessary to restructure and remodel the curricula to suit the present times.

### Modular Approach:

After going through a process deliberations on the subject, on observing the needs of the Departments, the task of structuring the curriculum would be that it suits for the adoption by different Departments of LIS with varying levels of infrastructure facilities prevailing in the country. Hence it was seriously considered to devise an approach that would help the departments to adopt the curriculum suitably. Crux of this Paper revolves round a Modular Approach in formulation of the Model Syllabi. Basic objectives, detailed contents and outcome of each module and entire course structure that has been coherently stipulated in this approach. Besides the Modules, break-up of Study, Marks Pattern, and Optimum Hours of Teaching programme have also been suggested to be included.

As early as in 1982 Lang in the UNESCO report proposed a Modular Approach to the curriculum for Information Studies. A similar approach was also advocated in the Asia-Pacific report on "A Curriculum for an Information Society" (1998). Dr. Vasanth Gowariker in his article on Higher Education in India in the 21<sup>st</sup> century contributed to 'Higher Education Challenges and Visions', published by the University of Pune (1999) has expressed a view to changes in the approach in the Higher Education and suggested a "Cafeteria" model for the Courses offered by the Universities. Accordingly in this paper a proposal to modular approach is made for LIS with 6 core modules and 1 Elective module. The worked out modules are:

MODULE – 1: Foundations of Library and Information Science

MODULE – 2: Knowledge Organisation, Information Processing and Retrieval.

MODULE – 3: Information Sources, Products and Services

MODULE – 4: Management of Library and Information Centres/Institutions

MODULE – 5: Information Technology: Basics and Applications

MODULE – 6 : Research Methods and Statistical Techniques

MODULE – 7: Electives: Information Systems

For each of the modules, the following concepts can also be added to enhance the effectiveness, thorough teaching, practice and evaluation.

Course objectives

Unit-wise course content

Special note on practical component

Learning outcome of each module

It is implied that the modules might be adopted to any one of the education patterns; viz., Two years integrated MLISc., One year each of BLISc. and MLISc., or Two-year integrated MLISc. (Semester scheme).

#### **Conclusion:**

The last 50 years of Library and Information Science education since the dawn of independence have seen many transitions. contrasts, and contradictions. The transition is one of the most welcome and significant development. As of today the Library and Information Science education is on the threshold of facing new challenges of the new century. The great expectations however are in store to establish its durability and survival in the next millennium.

If the Departments of Library and Information Science in India need to sustain the challenges then they have to set global standards in Library and Information Science education at least for the Asian region. The task is stupendous and involves drastic and progressive changes in its curriculum and building adequate and appropriate infrastructure facilities.

There is need for rejuvenating the LIS Courses in India in the light of the happenings in the International arena, and the adoption of Modular approach is a way of meeting the present and future needs of a dynamic curriculum.

Thus the education and training programmes in Library and Information Science must make a provision to prepare the professionals to assume the pro-active role in coping with the new technology and information explosion. In brief the designed course contents should concentrate in making the professionals as change agents, facilitators and guides with suitable and strong information empowerment.

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