RESEARCH IN LIBRARY SCIENCE : THE WHY AND THE HOW

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[On the basis of the postulates that research is a means of continuously developing a discipline, that it endows a discipline with the capability to utilise the knowledge generated in other disciplines, that it makes use of Scientific Method, that it admits of being learnt and of being organised, research in Library Science does not differ in the essentials of its objectives, methodology, and organisation from those of research in any other discipline. Considers that efficiency in library service is dependent on the changes in the value of the two parameters User and Embodied Knowledge, and that research helps to identify the changes in the value. Emphasises the role of the teacher and the steps that he may take in helping a trainee take the first steps in research. Research by the teacher and the provision of opportunity for intensive apprenticeship by an aspirant to research work are deemed to be essential factors in the promotion of research in the subject. The factors to be taken into consideration in the organisation of and in assigning priority to different kinds of research in Library Science in India, are briefly outlined.]

0 Introduction

It is helpful to postulate that

1 Research is a means of continuously developing a discipline ;
2 Research endows a discipline with the capability to utilize the knowledge generated in other disciplines ;
3 Research makes use of Scientific Method, and it is helpful ;
4 Research admits of being learnt ; and
5 Research admits of organisation.

On the basis of these postulates, Research in Library Science, does not differ in the essentials of its objectives, methodology, and organisation from those of research in any other discipline.

01 A System

The totality of library work and library service may conveniently be considered a system, wherein

1 Each component of the system and the system as a whole work toward achieving a common goal ;
2 A change in the value of one or more of the relevant parameters of the system may affect the work of one or more of the other components and/or of the system as a whole to a greater or lesser degree ; and
3 The change in the value of each of the relevant parameters is taken note of, and adjustments and developments brought about in the system such that the deviation from the most helpful path of achieving the common goal is nullified or is, at least, reduced to a minimum.

02 Two Parameters

Library service is, in essence, the dissemination of embodied knowledge to individual members and groups in community. Therefore, two relevant parameters, the changes in the values of which affect library service, are

1 User ; and

2 Embodied Knowledge.

03 Efficiency in Service

Efficiency of service to readers is designed to be achieved by the adoption or development of such tools and techniques that would facilitate the organisation of knowledge embodied in documents to help its retrieval within the reasonable limits of economy. To continue to be useful, library service must develop and adjust itself according to the changes in the value of the two parameters—the User and the Embodied knowledge. These two parameters are perhaps identifiable as independent but they are very much interdependent. At a given point of time the kind of knowledge embodied in documents may be a measure of the levels of achievements of the society, and the progress of the society is dependent on making available pin-pointedly, exhaustively, and expeditiously, the embodied knowledge to those who can make use of it as the basis for further achievements.

1 Research as A Means of Development

The value of each of the two parameters mentioned above does not remain a constant. It changes fairly frequently. Sometimes the changes is imperceptible; sometimes it is very significant. Research helps to identify the changes in the values. This enables library service to sharpen its tools, design newer methods, and adjust itself to the changing requirements. The discipline thus interacts effectively with its environment and finds its place in the totality of the universe of knowledge. In a living system such a process of interaction and adjustment of the organism in relation to its environment is generally termed 'growth' or 'progressive development.' And 'development' is the disclosure or discovery of that which was unknown.

2 Interaction With Other Subjects

As a method of discovery research sets no boundaries to the subject of investigation. In the process of development of a subject, its interaction with the environment becomes more and more intensive. It acquires the capability to utilise and assimilate the knowledge generated in other disciplines. This leads to the mutual enrichment of the subjects, the development of new specialisations, new problems, further research, and so on.

21 Some Highlights

In library science, the areas for cultivation are vast. Thanks to the work of the great pioneers like Melvil Dewey, Charles A Cutter, Henry E Bliss, Berwick Sayers,and Dr S R Ranganathan, what was three quarters of a century ago a mere

bundle of techniques is today a discipline with its own normative principles, empirical laws, and methodology of work. Further, continued research has endowed library science with the capability to utilise with advantage the work done in several other subject fields. Here are a few such areas of interaction :

The study of the structure and development of the universe of knowledge—that is the patterns of formation of subjects and the mode of the development of subjects—is of considerable value particularly in our researches in the methodology for the organisation of knowledge embodied in documents. In more general terms, such a study forms the very basis of the practice of library science at all levels.

Studies in certain branches of linguistics help in the selection, naming, and arrangement of subject headings.

Certain findings of experimental psychology have given clues to the mode of formation of concepts and the kinds of associations among them.

Studies in individual and group behaviour help to understand how and at what stages the different specialist groups—those engaged in theoretical researches, the design engineer, the production engineer, the bench-worker in the laboratory, the manager, the group leader, and the public relations man—make use of recorded experience. This, in turn, helps to provide library services appropriate to each kind of need.

The mathematical foundations of document retrieval systems have been derived on the basis of probability theory, information theory, combinatorial theory, numerical analysis, and mathematical logic.

Studies in communication process among non-living systems such as data processing, electrical communication, and servo-mechanisms have indicated some methodology for the construction and development of selectors in the use of machine for document retrieval.

Operations research and linear programming guide the adoption of productive search strategy in document retrieval.

The problems of housing, storage, and provision of access to documents have been engaging the attention of specialists in different subjects—the architect, the building engineer, the electronic engineer, and the specialist in reprography.

3 Research Uses Scientific Method

To ensure systematic investigation it is customary to adopt in research work a procedure generally named 'Scientific Method.' The method affords a critical and orderly process of investigation and exercise of analytical thinking in the study of a subject or a phenomenon. It generally leads to publicity verifiable conclusions. The objective is to examine and discover what facts truly are without being vitiated by personal prejudices and hopes. Neither intensity of belief nor mere psychological certitude guarantee the truth. Thus, Scientific Method provides a means of self-correction for a discipline at each stage of its development. This is essential in laying the foundations of discipline and in developing it. For, in the process of gathering experience, there is, perhaps, an innate tendency in man to hasten. All too often one does not stop to dive deep to examine the foundations which support and lend shape and stability to the super structure of the discipline. In our day to day life the concreteness of the context helps us along. But for deeper investigations, the Scientific Method is of considerable help in reducing to a minimum the number of faulty

steps. A discipline that is cultivated on the basis of such a research methodology acquires certain amount of consistency and reliability in its structure and function as it develops. Further, it helps to develop in the investigator the scientific attitude and the helpful habit of systematic thinking.

31 Never-ending Spiral, Ever Continuing Development

The use of Scientific Method in research and cultivation of a subject brings into play sensory, intellectual and intuitive experiences of man. It may be considered to take the form of a never-ending spiral consisting of experiment and observation, intellectual analysis of the sense-data, abstraction of empirical principles, further generalisation to derive fundamental laws with the aid of intuition, followed by derivation of deduced laws, further observations, and so on. The Spiral of Scientific Method [1] being a never ending one, the development of a subject is never complete but ever continuing.

4 Research Admits of Being Learnt

The ability to sense the existence of a problem, the right spirit and correct attitude for objective investigation, a respect for truth, and the capacity for hard work and perseverance are indispensable minimum requirements to take the first steps into research work. However, given the average intellectual, mental and physical capabilities, the aplitude for research can be inculcated in an aspirant. Research methodology is largely learned through emulation and education in an environment conductive to the purpose.

41 Role of the Teacher

In this context, a special responsibility rests with the teacher in the library school imparting advanced training in the subject. Teaching, in its widest sense, and research should go hand-in-hand. In fact, they are inseparable. The very fact that this Seminar on Education for Librarianship should deem it necessary to discuss research in library science attests to their inseparability. The environment wherein the 'ploughed-up' but unsophisticated mind of the trainee meets the mature but perhaps conservative approach of the teacher, is a fertile source of new ideas.

In such a set up, as an integral part of the teaching programme, the teacher should

1 Adopt measures to orient (or re-orient) the trainee's thinking to systematic methods conducive to research work at a later stage ;
2 Intimately study the aptitudes and handicaps of each trainee through personal contact individually as well as in small groups ;
3 Organise tutorials, groups study, and colloquia to encourage and facilitate co-operative endeavour and learning the productive use of the library ;
4 Introduce small pieces of investigation—for example as class assignment, or term paper, or dissertation—to help the trainee to take the first steps towards research;
5 Introduce the trainee, at the appropriate stages and in the appropriate measure, the different methods of approach in finding solutions to problems ;

6 Avail of all opportunities in the class room as well as outside it, to inculcate in the trainee the right spirit and correct attitude to research ;
7 Help, guide, and encourage research efforts by the trainee ; and
8 Continue to give such help, guidance, and encouragement, in the appropriate measure, even after the trainee has left the library school.

Over and above these steps, two important factors require special attention :

1 It is essential that the teacher himself does research.

(*Annotation* : Research done by the teacher is doubly beneficial Firstly, and secondly, the teacher makes his own contribution to the advancement of the discipline; it will set a good example for emulation by the new entrants and younger members of the profession).

2 An aspirant to research work should have an opportunity for intensive apprenticeship for a period ranging from two to three years in an institution doing research in the subject.

(*Annotation* : This apprenticeship may mark an important turning point in the career of the aspirant. Firstly, he will have an opportunity to find for himself, the area of work in which he can do his best. Secondly, he will experience, be guided into, and informed about, what cannot probably be learnt in a formal course even on research methodology).

5 Research Admits of Organisation

51 Seminal Research

In each discipline, over a period of a century, a few men of genius, two or three perhaps, make outstanding seminal contributions. The work of such a person will be in the fundamental and basic foundations of the subject. It will be charged with a high degree of intuition. It will make a great impact on the course of development of the discipline, give rise to several lines of developmental research and attract upon itself a large number of works from its own as well as other fields.

511 Society's Responsibility

Research of this kind cannot be done to order nor can it be directed. An attempt at organisation may harm rather than help. However, it will be helpful if society takes upon itself the responsibility of the following kind :

1 To spot out men of genius in the community ;
2 Ensure that the solo research done by them is not interfered with or pressurized, but that each such research worker is allowed to dream undisturbed, scientillate, and radiate at his own time and place ;
3 To take away or reduce to a minimum
   (*i*) The environmental handicaps (e g difficulty of access to documents) ; and
   (*ii*) The expenditure of intellectual, mental, and physical energy on the necessary routines associated with the work (e g such routines can be attended to by provision of research assistants and fellows, who will incidentally be greatly benefited from the association).

52 Team-Relay Research

In its early stages of growth, that is before it discovers itself and society discovers it, a discipline may have to depend largely on the work of a few men

of genius. When society discovers the value of the work, the kinds and number of demands on the discipline increases, and thereby the number of practitioners of the profession increases. The need for wide application and full exploitation of the findings of fundamental research for utilitarian ends will call for several lines of work. For example, it may be the working out specific procedures for application to particular piece of work; intellectual analysis, testing and evaluation; devising suitable methods for productive utilisation of the findings of fundamental research, or developing techniques for progressively reducing the incidence of flair and making the work more and more amenable to scientific method. These would largely form intellectual work. It will be inexpedient to depend for this purpose on the few men of genius. Team-relay research would be the more productive form of organisation in the context. It will help in bringing to bear on a problem specialised knowledge in different branches of the subject and even from other disciplines. However, team research would call for proper division of labour, coordination of the work, and avoidance of wastage of effort.

Over the last three decades research in Library Science has gone through the solo research period. Men of genius have been doing both fundamental as well as developmental research. The stage is now set for developmental work on a variety of subjects by several teams in different centres in the country. Some steps in the organisation of research in library science in India are briefly discussed in the succeeding sections.

6 Planning For India

For the purpose of chalking out a plan for the organisation of research in Library Science in India, it will be helpful to

1 Divide research work as fundamental research and developmental research ;
2 Assign priority for projects in different branches of the subject ;
3 Take into account the trend of research in library science and related subjects in other countries and the position of India in the picture ;
4 Division of the work into local national, and global levels ; and
5 Encourage cooperative effort at all levels.

The immediate scope of research in Library Science in India has been indicated in broad outlines in the UGC Review Committee Report. It can be added to and further details worked out.

61 Fundamental Research

Dividing research broadly into fundamental and developmental research is a help in the organisation of the work at different centres and by various teams. Obviously, the number of centres and the number of persons engaged in fundamental research will be far fewer than those engaged in developmental research. It is estimated that in the next two to three decades, there may be need in India for about a hundred leaders in the field to do fundamental research and to guide research. The need and programme for the education of librarians of different professional categories have been outlined [2]. Careful planning is essential

to maintain high standards of education in library science conducive to the production of good crop of research workers in the subject.

62 DEVELOPMENTAL RESEARCH

Developmental research can and should be done in the libraries throughout the country. Persons at the service points will be in daily contact with the specific requirements of readers and will,therefore, be confronted with alarge number of problems of practical importance. This situation affords the right context for the evaluation and testing of new ideas.

621 RESEARCH AT SERVICE POINTS

A Librarian at such a service point should sense the problem that arises; he may work out a provisional solution to meet the local need and the day-to-day work goes ahead; a more permanent solution would be attempted in due course after fuller consideration. He should have an opportunity to discuss the problems, if necessary, with colleagues in his library, and in the profession. Opportunity for the former kind of consultation usually arises at periodically held technical or staff meetings of the library. Opportunity for the later kind can be created through organised but informal meetings such as Research or Study Circles.

Certain problems may be of more than local interest and concern several libraries in the country. Problems of selection and procurement of documents, inter-library loan, development and use of schemes of classification, organisation of documentation work and service, management of libraries, study of document usage etc, are questions of this kind involving and to be cooperatively examined by, several librarians. Opportunity for exchange of ideas on such subjects arises at conferences and seminars organised on a nationwide scale. Problems of a fundamental kind arising out of developmental research may be referred to the national centres for research in Library Science.

Provision of suitable channels of publication of results of research and of the deliberations of conferences help to disseminate to the members of the profession the findings of research.

63 ASSIGNMENT OF PRIORITY

In assigning priority to the research projects, it will be helpful to take into account the

1 Present and future library needs of the country ;
2 Practicability of the implementation of the developmental work in the context of the economic and social conditions of the country ; and
3 Trend of development in the subject in other countries.

Cognisance of the trend of research in library science in other countries would help us learn from the experience of others, avoid duplication of effort, and planning for a global division of research effort according to the specific immediate needs of each country as well as in promoting a wholistic integrated develop-

ment of each branch and division of the subject. It will help each country to effectively participate in the advancement of the discipline and to discover its position in this global effort.

7 India's Advantageous Position

Over the last three decades India has made important contributions to the different branches of Library Science. Some of the contributions have not only found wide acceptance among the practitioners and research workers in the subject, but they have given the lead to further research and development in the subject in this country as well as abroad.

In regard to education of librarians, India has been among the first to establish full-time postgraduate courses in Universities. It has also taken the lead in the Commonwealth to establish courses leading to the Master's Degrees and Doctorate Degree in the subject. The establishment of centres for research, Chairs of Library Science, and the institution of scholarships and fellowship for the promotion of research in Library Science, are also noteworthy factors. Half a dozen periodicals of different categories published in the country provide the means for communication among the members of the profession both within as well as outside India.

The creation, by the Government of India, of a National Research Professorship in Library Science is an evidence of the high value the society has placed on Library Science and Library Service.

The unique and advantageous position that India today occupies in the map of the world of library science enjoins a responsibility on the members of the profession to carry forward and improve upon the position. In this endeavour the past achievements of the pioneers should be an inspiration for sustained efforts.

8 Conclusion

To summarise, Research in Library Science must be encouraged and fostered at all levels. For,

1 Research does good to the research worker ;
2 Research does good to the discipline ; and consequently to the profession ; and
3 Research does good to the society.

Bibliographical References

1 Sec 31 RANGANATHAN (S R) : *Five laws of library science.* Ed. 2. 1957. Sec 81.
2 Sec 61 ——, and others : Raising the library man-power. (*Lib sc* 1; 1964, Paper U)