Chapter- III

Methodology
3.1: INTRODUCTION:

This chapter seeks to explain the method, which have been adopted to conduct the investigation. The data collection tools and techniques for data analysis are also presented in this chapter.

Research method may be understood as those methods and techniques that are used for graduation of research by methodology. It stands for the correct arrangement of thought either for discovery or for the exposition of truth. Research methodology, thus is a way to solve the problem systematically and has its own importance in any research study because it is based on exact scientific principles and procedures which are useful in finding truth from the universe of knowledge.

Research method in library and information science includes various techniques to examine library and information phenomena. For the present study the researcher has adopted evaluation research in its investigation, i.e. evaluation of Social Science collection.

Method, for evaluation of collection programme depends on the techniques for analysis of a collection, in a sense it is a performance analysis we may assess it on the basis of the cost of purchase and replacement, circulation data, accessibility, number of users, citation of documents available, collection of text books, theses, govt. reports, reference books and production programme of the collection. In recent years studies on the collection have been made to set norms on as:
a) Absolute size of collection.

b) Size in relation to variable such as subject, data of publication, language, type of documents number of volumes percapita, number of Volumes per documents circulated.

c) Growth rate of publication.

d) Variety of media in which it is published.

e) Transmission speed of the information contained.

f) Usages of the documents on the basis of circulation statistics and

g) Expenditure on the collections.

Numerous techniques to evaluate the collection have been described in the library literature but few have actually been tested to Assess their reliability and the library profession has uniformly accepted validity as evaluation tools and none.

Generally methods for evaluation library collections fall into three broad categories.

1) Checking lists.

2) Compiling statistics on current practices.

3) and Obtaining users opinion.

Each of the types has something to offer no one satisfies all the requirements. Taking into consideration of the benefits and limitations of specific methodologies and of the anticipated results present study
has used following six distinct techniques in combination with each other and with collection centered techniques as part of an ongoing collection evaluation programme.

1) Quantitative method of evaluation.

2) Qualitative method of evaluation.

3) Use methods.

4) Citation analysis

5) Impressionistic method

6) Users study

3.2: QUANTITATIVE EVALUATION:

A method for quantitatively evaluating a university library collection was used with the approaches as suggested by Lancaster (1977).

1) Absolute size of collection.

2) Size of collection by various methods of categorization (e.g. subject, date, language, type of material.)

3) Growth rate and weeding.

   a) Total and Social Science collection.

   b) Volumes added to total and

   c) Social Science collection.

   d) Weeding.
4) Per capita collection and number of volumes per items circulated.

5) Budget and expenditure.

6) Levels of collection, basic, working and general research collection.

3.2.1: Absolute Size Of Collection:

The size of collection creates a sense of proportion in its utility. The maxima and minima of the size of collection have to be determined for effective library service. It is obvious that a collection in a library depends on its host organization and the care the latter bestows on the library. However norms can be derived to determine the optimum size of the collection.

Regression analysis helps investigator to do it. For example, we may have the data on the number of users who have barrowed at least once and the size of the collection which was used at least once in an academic year in library we can then identify whether or not there exists a linear relation such as \( Y = a + bX \) such a correlation helps investigator to express the size of the collection as a variable of usage. The actual computation of the size also depends on several other variables, composition of faculties, curriculum, number of postgraduate students and research fields etc. For instance, an equation may be formulated as per the Clapp and Jordan formula.

First step in the collection of quantitative information was to count the total collection, Social Science collection, Social Science
collection according to the subjects in Social Science and their percentage with each other.

For this numerical counting was essential for getting figure of total collection as well as Social Science collection. Since library used DC classification scheme and prepared a separate classified catalogue card for each title received in the library it became easy to count to total number of books of Social Science subjects. Counts of volumes were done by subject classification break down with the help of classified catalogue.

As total size of the collection by it self is not completely useful measure because in most cases libraries must added to its collection to keep it useful. Therefore volumes added per year became necessary component to measure total size of collection. The data was scanned from annual reports of Dr. Babasaheb Ambedkar Marathwada University 1998 to 2002, to get year wise figures of total number of books added in the library and total number of books added in the subject of Social Science and its related subjects.

3.2.2: Formula Approach To Library Size:

Formula approaches to determination of adequate library size especially along lines developed by Clapp and Jordan, Washington State formula (A) ACRL formula as the needs of the academic library depends upon the most important factors as the size of the composition of the student body and faculty, curriculum, number of courses and geography of the campus and the intellectual climate. Formula “A” of the ACRL (1986) is used to determine the
recommended level of the library, so attempts were made to analyse the size of collection as per formula A of the ACRL. The Association of College and Research Libraries ACRL have given guidelines associated with ACRL formula; a grading scheme for academic collection is also applied to know the gradation of Dr. Babasaheb Ambedkar Marathwada University Library.

3.2.3: Clapp And Jordan Formula:

This formula is based on the careful judgment of experts in library evaluation and which is intended to indicate a maximum scale of adequacy. Several much formulas are available although most of these steam from the one suggested by Clapp and Jordan.

Clapp and Jordan begin by listing the variables that should be relevant to determination of the size of collection for academic library, Clapp and Jordan formula can be written as a sum of several variables all of which are Quantitatively measurable.

\[ V = 50,750 + 100F + 12E + 12H + 335U + 3050M + 24500D \]

Where,

- \( F \) = number of faculty
- \( E \) = total number of students enrolled
- \( H \) = number of undergraduate honors student
- \( U \) = number of major undergraduate subjects
- \( M \) = master’s field offered
- \( D \) = doctoral fields, offered
- \( V \) = volume

Where 50750 is constant.
Constant representing a minimum viable Clapp and Jordan says 50,750 volumes. Attempts were made to calculate the total size of Dr. Babasaheb Ambedkar Marathwada University Library as per Clapp and Jordan formula, where as being a university undergraduate courses are not offered; hence the variables ‘H’ and ‘U’ are not taken into consideration.

The actual size of the collection is not only the criteria for adequacy of the collection but it will be based on the relationship between the nature and strength of holdings as well as the curriculum. Therefore to determine the size of collection by various categorization, collection was analysed according to the subject area, date of publication and type of material.

3.2.4: Growth Rate:

Phenomena of growth rate are visible in large measure in the publication of documents. It has projected a tendency of exponential growth. It has also reflected in the growth of collection. They have been growing in size and varieties. As the computation of growth rate requires data on the collection size for a period of at least ten to twelve years immediate preceding years, in present investigation rate of growth is considered in terms of numbers of volumes rather than percentage increase in the size of collection.
3.2.5: Levels Of Collections:

University library is generally concerned with acquiring the collection according to various levels and nature of material Touber Mourice (1977) set up five categories to describe various levels of collection.

1) Basic information collection

2) Working collection

3) General research collection

4) Comprehensive collection and

5) Exhaustive collection.

The systematic development of the collection according to various levels and nature of materials is important as total size. To determine the adequate size of collection, the collection of Dr. Babasaheb Ambedkar Marathwada University Library was divided according to these levels except comprehensive and exhaustive categories. It is difficult for academic library to divide the collection according to comprehensive and exhaustive categories.

3.3: QUALITATIVE EVALUATION:

To determine the quality or excellence rather than size of collection or ability to meet user demands qualitative evaluation of collection is absolutely necessary. Because Bonn (1974) says quantitative evaluation in them selves, they indeed can not measure quality statistics is not likely to be related significantly to the libraries
community or to the libraries goals and objectives. Hence present study also tried to evaluate the collection qualitatively.

Methodology and procedures for qualitative evaluation of collection was adopted as summarized by Lancaster (1977) as follows:

3.3.1: Impressionistic Method:

With impressionistic method one or more individuals, experts, subject specialists or scholars etc evaluate collection.

Investigator relayed upon the expertise i.e. faculty members because they can opine about the objectives of the curricula in shaping the library collection. This approach has the advantage of addressing specific aspect of the collection in varying degrees of detail. The focus was on locally thought courses and programme ensure that the collection not be asked to measure up to some arbitrary and artificial standard. Experts and faculty added their insights on collection evaluation and improvement indicated in programme. By this method information obtained by questionnaire has been recorded for possible use in evaluation. Faculty members are used for evaluation of collection. Principal objective of using impressionistic method was to determine the degree to which the Social Science collection is adequate to meet the instructional and research programme of the department and to shape the collection in future. The structure questionnaire enclosed in (Appendix No. 1) was distributed with a random sample. Impressions of cliental i.e. Research students and postgraduate students were recorded.
3.3.2: Standard List:

The traditional way of evaluating a library collection is by measuring it against some standard a bibliography, a catalogue, another library holding or a list of recommended titles. The principle deficiency of lists is that they may have no real relationship to local needs and will become out dated. It is accepted fact that no single tool can be regarded as perfect and complete. Taking into consideration the various needs of the users in Social Science, a specially prepared composite list in the Social Science was compiled as an aid to appraise the quality of collection. Checklist was classified into different areas as bibliography, reference collection, textbooks, latest publication etc. Selected list was shown to the Head of the Dept. and experts for their appraisal. The checklist was checked against the holdings of the library, total number of titles checked was 481.

Syllabi are the most authoritative guide for putting for the educational and instructional programme of the departments. Hence entire M.A. Social Science syllabi were checked with the catalogue of the library to find effectiveness of the collection, total number of title, which is checked with the library catalogue, was 31, 22.

Methods of unfilled request and interlibrary loan analysis were also adopted in present investigation.

3.3.3: Use And User Studies:

Various methods of evaluation of library collection in terms of how it is used and by whom is available. In many user and user studies evaluation will be based on sample, either of units to be
examined (shelf list cards, circulation records, physical volumes etc.) or of patrons, sampling is usually done for a selected period of time.

For the present study type of sample chosen is dependent on the objectives of the study. Sample and sample technique is carefully defined and constructed in order to obtain valid information. This information then is extrapolated to the whole universe from which the sample is drawn. The units, targeted for study are selected at random from the entire population.

Type of Use and User Studies are circulation studies, survey of user opinions, in use study, shelf availability study, and citation study, with their suitable methodologies were adopted. For circulation studies techniques of analysis of circulation data was adopted. By this investigator find it easy to examine this data for a part of or the total collection by user groups, by purchase of book or by subject class. data of this kind can be used to identify little used, portions of the collection that can be retired or weed out from storage area, ‘Core’ collection, use pattern of selected subject areas and to identify user population.

Present circulation study covers the collection of the subject of Social Science which comprised of 51456 books on the shelves during the period of investigation in summer vacation 48074 each book on the shelves was examined, Information about type of material, call No, Year of publication were noted from the year April 2002 to May 2004.
For circulation study only Home-Use is considered. For this book cards were checked for tracing post recording use in last five years. Collected data was easily arranged in to categories for analysis i.e.

1) Total circulation.

2) Per capita circulation.

3) Non-circulation of books.

4) Number of times a documents circulated.

5) Age of collection.

6) Circulation according to type of material.

7) Circulation according to subject.

8) Books used with match and non-match with Social Science syllabi.

By this method units of information were easily counted and collected information was objective.

3.3.4: Citation Studies:

In present investigation the method of citation analysis was also adopted. This method is sufficiently simple that it can be employed repeatedly. The citations in number 176 of doctoral thesis in Social Sciences submitted to Dr. Babasaheb Ambedkar Marathwada University were checked with library holdings. It consists of counting the number of times documents are cited in footnotes references,
bibliographies etc. It was assumed that items that are relatively heavily cited are likely to be used more than those that are cited little or not at all. It helped to analyse the data easily arranged in to different categories. Citation studies revealed the availability of the documents cited as well as important type of material to research scholars.

This method also helped to identify changing trends in the published literature.

3.3.5: Users Survey:

Survey and studies are also the important techniques for collection evaluation. Hence it was decided to survey the users of Social Science. To evaluate the collection by the opinions of the users postgraduate students, research scholars, faculty members with the help of questionnaire, were asked to rate the quality of the collection in their own subject areas on some type of scale. High response to the questionnaire was due to the personal follow by the investigator. The relationship between investigator and users as well as with library staff was helpful in obtaining information, which could not be obtained from written documents or persistence efforts. Out of 434 questionnaire distributed 376 responses was finally received, percentage being 86.63%. Interviews were held with the faculties, researcher, postgraduate students whenever felt necessary.

However, that there are number of indicators, techniques and tools to evaluate the book collection of the library. It can be also pointed that there is no one best method to evaluate the collection, no method is better than another.
Before effective studies can be designed, there must be clear understanding of the benefits and limitations of specific methodology and of the anticipated results. It also clear that to evaluate the collection methodology must be used in combination with quantitative, qualitative, use and user studies and user’s survey etc. By using these various methods, techniques and procedures, it was hoped to test reliability and validity as well as to identify any problems or limitations inherent in each and every method adopted.

3.4: LIMITATIONS OF THE METHODOLOGY:

As is typical in large organizations as Dr. Babasaheb Ambedkar Marathwada University Library that have developed over a long period of time valid operating data were not available in several areas which invalidate the conclusions they reach.

In recent years formula approaches to the determination of adequate library size especially along lines developed by Clapp and Jordan have become a significant element of the librarians personal, the investigator that the empirical basis of the Clapp-Jordan formula is rather vague especially for the Indian situation has pointed it out. There is a need for developing predictive formulas from causative explanatory models of the nature of Indian academic libraries.

However despite these difficulties formula approaches would provide some basis of comparison for estimating minimum levels of adequacy of collection.

Other conclusion reached by quantitative study that the quantitative research, while providing valuable information for
collection evaluation, must be supplemented with qualitative. In qualitative evaluation investigator has adopted the standard qualitative procedures but the quality of collection its excellence or its value or worth in particular situation is difficult to judge objectively. Because qualitative evaluation needs continuous updating enrollment statistics, materials are constantly being added to and courses offering are continually changing and not reflected in the university courses. With impressionistic method evaluation is entirely subjective but efforts are taken to overcome this difficulty by collecting the impressions of experts who have sound knowledge of various subject areas.

Standard list checking approach also have some additional weakness as it becomes dated quickly moreover list checking is apt to be most useful in evaluating newer & smaller libraries but least useful in evaluating the large well established library as Dr. Babasaheb Ambedkar Marathwada University Library.

It is clear that quantitative and qualitative evaluation must be used in combination with other studies i.e. use and user study, as well as citation analysis, users survey in spite of the several limitation inherent in the methodology as circulation study may be based through in accessibility of heavily used material, fails to identify low use due to obsolescence or low quality of collection etc.

Survey method helps to evaluating quantitatively and qualitatively the effectiveness of the collection but designing a sophisticated survey is difficult i.e. it is difficult to frame unambiguous questions that will yield quantifiable results survey of user opinions will miss valuable statements from and about the non users.
A citation study is a versatile collection evaluation technique, which results in empirical data, but there are some problems or deficiencies inherent in the method. Citation approach is obviously not appropriate for evaluating a collection’s ability to support teaching programme of the university. Other difficulties in implementing a citation checking evaluation project are duplication of citations, citations of unpublished material unverifiable citations etc.

The limitations of the different method and techniques mentioned above were carefully considered before the study was undertaken. The methodology was developed for the specific purpose of assessing collection support of the university programme and investigator believe that results are significant and would help to arrive at some what accurate conclusions on the Social Science collection.

3.5: DATA COLLECTION:

For present study following methods collected data:

1) Checking the books on shelves for noting the use of books.

2) Cards were prepared and all bibliographical details of the books were written on the cards.

3) M.A. Social Sciences syllabi were studied, analysed and checked against the library holding.

4) A list of citation from the Ph.D. thesis of Social Sciences subject submitted to Dr. Babasaheb Ambedkar Marathwada University was complied and treated as an equipment for checking with the library catalogue so as to know how many document were available in the library.
5) The Social Science collection acquired in the library till June 2002 was taken into consideration for the present study.

6) For Impressionistic method survey method is used a questionnaire was framed and distributed to post-graduate students enrolled Ph.D. students, and all the faculty member of the Social Science department.

3.6: DATA ANALYSIS:

In the final analysis, the data collected by different method was merged e.g. absolute size of collection, collected by all the two ways i.e. from Annual Reports and counting number from classified catalogue cards of the Social Sciences and its related subjects.

Interviews, observation, regarding adequacy of collection were merged. In view the cohesiveness of information, responses received to individual questions have not been presented in the same sequence of the questionnaire. To analyse the data, related information was analysed together to increase readability of finding. While analyzing the data the variable like age of collection, subject of collection, language of collection etc. were considered for quantitative and qualitative evaluation. For users studies three variables were considered.

1) Faculty

2) Research students, including M. Phil.

3) Post-Graduate students.
Collected data has been analysed and presented in tabular as well as in graphical forms e.g. bar charts, pie charts, line graphs etc. are used for the purpose of analyzing the data collected.

3.7: GROWTH ANALYSIS:

The simple or linear trend analysis was used to know the trends and growth pattern in different variables such as budget and cost per unit rate was calculated, the trend equations were used in this regard.

\[ Y = a + bt \]

Where, \( Y \) = estimated output/ budget/ number of books purchased, per year,

\[ t = \text{year} \]

\[ a = \text{intercept} \]

\[ b = \text{slope} \]

\[ \text{Y} = \text{mean of Y}. \]

3.8: SOURCES OF THE STUDY:

The sources quantitative, qualitative evaluation for statistical data collection are annual reports of the university accession register, books cards, Social Science syllabi, library catalogue, circulation data, annual budget report, checklist, questionnaire, observation, and interviews.
3.9: CONCLUSION:

It can be concluded that there are a number of indicators, techniques to evaluate the books collection. It can also be stated that there is no one best method to evaluate the collection no method is better than another.

Before effective studies can be designed, there must be clear understanding of the benefits and limitations of specific methodologies and of the anticipated results. It is also clear that methodology must be used in combination with each other and use and User studies and with collection centered techniques as part of on going collection evaluation programme.