

A Study on Research Methods in Library Profession

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Abstract

Research methods should be known by the people in education society. Teachers and students are doing research in all subject fields. This study aims to find out research methods in library profession. It is conducted through an analytical study. Qualitative approach is used in analyzing research methods. The required data were collected from some documentary sources. As this paper presents the process of research methods, it is valuable for researchers in all subject fields. Finally, it can be seen that teachers and researchers will better know different research methods for doing research.

Key words: research method, library profession, subject fields, process of research

Introduction

Research is essential for the people who work in the education sector. A systematic search for an answer to a question or a solution to a problem is called research. Generally, there are many types of research methods. They are: descriptive research, applied research, qualitative and quantitative, conceptual vs. empirical, historical research, formulative or exploratory research, experimental research and other types of research. Research process involves formulating the research problem, extensive survey literature, development of working hypothesis, preparing the research design, determining sample design, collecting the data, execution of the project, analysis of the data, hypothesis testing, Generalization and interpretation and preparing of the report or thesis.

Meaning and Definition of Research

The research aims to get explanations to unexplained phenomenon. Research is a more efficient and effective approach to expand knowledge which is the conduct of special, planned and structured investigations.¹ In the scientific community, research is undertaken to attack problems of significance or to increase theoretical knowledge, both purposes of which may be accomplished when hypotheses are subjected to systematic, empirical tests. A great deal of research has been conducted in academic institutions.

Research variables may also be classified according to their relationships in a given study. Research is an organized enquiry. Good research questions force research workers to think carefully about the kinds of information needed and the most appropriate and expeditious methods to obtain it.

Research is essentially a systematic enquiry seeking facts through objective, verifiable methods in order to discover the relationships between them and to deduce from them broad principles or laws. It comprises of:

- Collecting, organizing and evaluating data,
- Defining and redefining problems, and
- Formulating hypotheses or suggested solutions

As a research is a scientific investigation or inquiry, it is essential to study what exactly is meant by Science and Scientific investigation.

As such the term research refers to the systematic method consisting of enunciating the problem, formulating a hypothesis, collecting the facts, analyzing the facts and reaching certain

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¹ Charles H. Busha, *Research Methods in Librarianship: Techniques and Interpretation* (New York: Academic Press, 1980), 3.

conclusion either in the form of solution towards the concerned problem or in certain generalization for some theoretical formulation.

Aim and Objectives of the Study

The major focus of the present study is to analyse the ways of doing research in education society. This study has also been described with the following objectives.

- to know the process of research methods
- to identify different kinds of research methods
- to write the report based upon the findings of the research
- to develop new tools, concepts and theories for a better study of unknown phenomena

Scope of the Study

This paper covers different kinds of research methods in various subject fields. It presents research process, such as formulating the research problem, extensive survey of literature, development of working hypothesis, preparing the research design, determining sample design, collecting the data, execution of the project, analysis the data, hypothesis testing, generalization and interpretation, and preparing of the report or thesis.

Characteristics of Research

The researchers should know the following characteristics in conducting a research.

- i. It is a systematic and critical investigation into a phenomenon.
- ii. It is not a mere compilation but a purposive one.
- iii. It adopts scientific method.
- iv. It emphasizes the development of generalization, principles and theories.
- v. A research is the solution of a problem.
- vi. It is based upon experience or empirical evidence.
- vii. Research demands accurate observation and description.
- viii. Research involves gathering new data from primary sources or using existing data for a new purpose.
- ix. Research activities are characterized by carefully designed procedures and applying rigorous analysis.
- x. Research requires necessary skill to carry out investigation, search the related literature and to understand and analyze the data gathered.
- xi. Research strives to be objective and logical, applying every possible test to validate the procedures employed, the data collected and conclusions drawn.
- xii. Research requires courage.
- xiii. Research is characterized by patient and unhurried activity.
- xiv. Research is carefully recorded and reported.
- xv. Research follows a specific plan of procedure.
- xvi. Research accepts certain critical assumptions. These assumptions are underlying theories of ideas about how the world works.
- xvii. Research requires the collection and interpretation of data in attempting to resolve the problem that initiated the research.
- xviii.

Research Process

Research Process consists of series and actions and steps necessary to effectively carry out a research and the desired result. There are 11 steps of research process. They are:

1. Formulating the Research Problem

At the very beginning of the research, the researcher must single out the problem he wants to study. Initially the problem may be stated in a general way. Then the formulation of a general topic into a specific research problem should be done as the first step in a scientific enquiry. The researcher should examine all available literature to become familiar with the selected problem. Care must be taken to verify the objectivity and validity of the background facts concerning the problem.

2. Extensive Survey of Literature

The researcher should undertake a detailed survey of literature connected with the problem. He or she may refer journals, published and unpublished bibliographies, conference proceedings, government reports, books, and survey findings. In this process he should remember that one source would lead to another. The earlier studies if any, which are similar to the study, should be carefully studied. A good library will be of great help to the researcher at this stage.

3. Development of Working Hypothesis

The researcher should state in clear terms the hypothesis, which is a tentative assumption made in order to test its logical consequences. Hypothesis should be very specific and limited, as it has to be tested. It also indicates the types of data required and the method of collecting the data

4. Preparing the Research Design

The researcher should prepare a research design in which the conceptual structure of the research would be mentioned. In the design, the means of obtaining the information, time available for research, cost involved and the objectives of the research are mentioned.

5. Determining the Sample Design

The researcher must decide the way of selecting the sample from the universe popularly known as the sample design. It is decided before any data are actually collected. The important sample designs are simple random sampling, deliberate sampling, systematic sampling, stratified sampling, quota sampling, cluster sampling, multi-stage sampling, and sequential sampling.

6. Collecting the Data

In dealing with the real life problem, it is often found that data at hand are inadequate and hence, it is necessary to collect data. There are several ways of collecting appropriate data, which is decided, by cost time, and other resources at the disposal of the researcher. Primary data can be collected either through an experiment or through a survey. But in case of survey, any one or more of the following ways can be used to collect the data: that is, by observation, through personal interviews, through telephone interviews, by mailing of questionnaires, through schedules.

7. Execution of the Project

It is an important step in research process. If the execution of the projects proceeds on correct line, the data to be collected would be adequate and dependable. The execution should be systematic and in time. The fieldwork for data collection should be in a systematic manner and steps should be taken to get the co-operation of the respondents.

8. Analysis of the Data

After the data have been collected, the researcher turns to the task of analyzing them. He should classify the raw data into some purposeful and usable categories. At this stage, coding is done through which the categories of data are transformed into symbols that may be tabulated and counted. Editing is the procedure that improves the quality of data for coding. Tabulation is a part of the technical procedure wherein the classified data are put in the form of tables. Analysis of work after tabulation is generally based on a computation of various percentages, coefficients, etc. by applying various well-defined statistical formulae.

9. Hypothesis Testing

After analyzing the data, the researcher is in a position to test the hypothesis if any, he had formulated earlier. Statistician has developed various tests such as Chi-square test, T-test, F-test for the purpose. The test to be used depends upon the nature and object of research enquiry. Hypothesis testing will result in either accepting the hypothesis or in rejecting it.

10. Generalization and Interpretation

If a hypothesis is tested and upheld several times, it may be possible for the researcher to arrive at generalization. If the researcher had no hypothesis to start with, he might seek to explain his findings on the basis of some theory. It is known as interpretation. The process of interpretation may create new questions, which in turn may lead to further researches.

11. Preparation of the Report or the Thesis

Finally, the researcher has to prepare the report what he has done. It should be written in a concise and objective style in simple language avoiding vague terms and expressions. The lay out of the report should be as follows:

Preliminary pages: It includes title, date, acknowledgement, and forward. Then there should be a table of contents, list of tables, list of graphs, chart if any in the report.

Main text: It should include an introduction, summary of findings, main report and conclusion.

The end matter: It includes bibliography, i.e. list of books, journals, reports, etc.

Types of Research

The basic types of research are as follows:

Descriptive Research

Descriptive research includes surveys and fact-finding enquiries of different kinds. The major purpose of descriptive research is description of the state affairs, as it exists at present. It reports the characteristics of a particular individual situation or group and also the frequency of occurrence of an event like, the frequency of accidents in a particular area.

Applied Research

Applied research aims at finding a solution for an immediate problem facing a society or an industrial/business organization. For example, a researcher undertake to study the causes of chigunkunia fever in a particular area is applied research. Applied research is pragmatic; its purposes are more specific and are generally directed at solving practical problems or at a discovery of new knowledge that can be utilized immediately in actual real work situations. Studies in librarianship fall in the category of applied research.

Quantitative Vs. Qualitative Research

Quantitative research is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity. Qualitative research, on the other hand, is concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind.

Conceptual Vs. Empirical Research

Conceptual research is that related to some abstract ideas(s) or theory. Philosophers and thinkers to develop new concepts or to reinterpret existing ones generally use it. On the other hand, empirical research relies on experience or observation.

Historical Research

Historical research is the induction of principles through research to the past and social forces, which have shaped the present. Its aim is to apply reflective thinking to unsolved social problems by discovering past trends of events, facts and attitudes, and by tracing lines of development in human thought and action.

Historical research for its successful implementation depends highly on the sources of information, which include:

- Oral history records.
- Newspapers.
- Annual reports
- Manuscripts

This research can be applied to write the biography of a person (e.g. Ranganathan, Melvil Dewey) or in the development of a library during a particular period (e.g. Library of Congress, National Library of Calcutta), or to record the history of libraries in a country, or history of development of library technique (e.g. Library Classification, Cataloguing and Indexing), etc.

Formulative or Exploratory Research

An exploratory study/research is one, which has the purpose of formulating a problem for more precise investigation or for developing hypotheses. Besides, this study may, however, have other functions as follows:

- (1) Clarifying concepts;
- (2) Increasing investigator's familiarity with the phenomenon they wish to investigate in a subsequent, more highly structured study, with the setting in which they have plan to carry out such a study;
- (3) Establishing priorities for further research; and
- (4) Providing a census of problems regarded as urgent by people working in a given field of social relations.
- (5)

Exploratory Research

The purpose, rather than the technique, of the research determines whether a study is exploratory, descriptive, or causal. A manager may choose from three general categories of exploratory research:

Experimental Research

The experiment is the basic tool of the physical sciences for tracing cause and effect relationships and for verifying inferences. Its application in the social science is still its infancy. Experimental studies have their purposes to test a hypothesis of a causal relationship between variables. The three main features of the experiment and quantitative measurement of results appear to be applicable and relevant at least in some social sciences and in some fields.

The three broad types of experiments are:

- (1) The natural or uncontrolled one as in astronomy, made up mostly of observation;
- (2) The laboratory type as in physics, chemistry and psychology, in which the scientists reproduce the situation he want to observe and in which he manipulates one or more of the conditions; and
- (3) The field experiment- the best suited to social sciences- which is a theoretically-oriented project in which the investigator manipulates one independent variable in some real social setting.
- (4)

Other types of Research

All other types of research are variations of one or more of the above stated approaches, based on either the purpose of research, or the time required to accomplish research, or the environment in which research is done, or on the basis of some other similar factor.

Conclusion

In conclusion, there is evidence that the researchers in the field of library and information studies employ a large number and wide variety of research methods. Each research approach, strategy and method has its advantages and limitations. When researchers prepare to conduct a study, they should consult with qualified subject experts. In this way, conducting research plays a significant role among the researchers and the above all research methods are useful for researchers, supervisors, librarians, scientists and scholars in various fields.

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