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Research Methodology in Geography



Research!

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Unit-I

Introduction to Research Methodology

- Defining research- Methods of research types, significance of geographical research, research ethics
- Problem formulation and identification.
Review of Literature: Significance and sources of literature review
- Research Design : meaning, stages, characteristics and significance of research design

Defining Research

“The systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions.”

‘Research as a scientific and systematic search for relevant information on a specific topic’

Redman and **Mory** define research as a “systematized effort to gain new knowledge.”

- According to Clifford Woody research comprises defining and redefining problems, formulating *hypothesis* or suggested *solutions*; *collecting, organizing* and *evaluating* data; making *deductions* and reaching *conclusions*; and at last carefully *testing* the *conclusions* to determine whether they fit the formulating *hypothesis*.

OBJECTIVES OF RESEARCH

- The purpose of research is to **discover answers to questions** through the *application of scientific procedures*.
- The main aim of research is to **find out the truth** which is **hidden** and which has **not been discovered** as yet.
- Though each research study has its **own specific purpose**.

MOTIVATION IN RESEARCH

What makes people to undertake research?

- To get a research degree along with its consequential benefits
- To face the challenge in solving the unsolved problems
- to get respectability

TYPES OF RESEARCH

➤ Descriptive vs. Analytical

Descriptive research includes surveys and fact-finding enquiries of different kinds. The major purpose of descriptive research is description of the state of affairs as it exists at present.

In **analytical research**, on the other hand, the researcher has to use facts or information already available, and analyze these to make a critical evaluation of the material.

➤ Applied vs. Fundamental

Applied research aims at finding a solution for an immediate problem facing a society or an industrial/business organization, whereas **fundamental** research is mainly concerned with generalizations and with the formulation of a theory.

➤ Quantitative vs. Qualitative:

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. when we are interested in investigating the reasons for human behavior (i.e., why people think or do certain things)

➤ Conceptual vs. Empirical:

Conceptual research is that related to some abstract idea(s) or theory. It is generally used by philosophers and thinkers to develop new concepts or to reinterpret existing ones.

Empirical research relies on experience or observation alone, It is data-based research, coming up with conclusions which are capable of being verified by observation or experiment. We can also call it as experimental type of research. prove or disprove his hypothesis

Significance of Geographical Research

- All progress is born of inquiry
- Doubt is often better than overconfidence
- it leads to inquiry, and inquiry leads to invention”.
- The role of research in several fields of Geography.

Human Geography and Physical Geography

RESEARCH ETHICS

- **Honesty**

Strive for honesty in all scientific communications. Honestly report data, results, methods and procedures, and publication status.

- **Objectivity**

Strive to avoid bias in experimental design, data analysis, data interpretation, peer review, personnel decisions, grant writing, expert testimony, and other aspects of research where objectivity is expected or required.

- **Integrity**

Keep your promises and agreements; act with sincerity; strive for consistency of thought and action.

- **Carefulness**

Avoid careless errors and negligence; carefully and critically examine your own work and the work of your peers. Keep good records of research activities, such as data collection,

- **Openness**

Share data, results, ideas, tools, resources. Be open to criticism and new ideas.

- **Confidentiality**

Protect confidential communications, such as papers or grants submitted for publication, personnel records, trade or military secrets, and patient records.

- **Social Responsibility**

Strive to promote social good and prevent or mitigate social harms through research, public education, and advocacy.

- **Legality**

Know and obey relevant laws and institutional and governmental policies.

PROBLEM FORMULATION AND IDENTIFICATION

The problem formulation is the process of determining the constituent parts of a **problem**

Initially the problem may be stated in a broad general way and then the ambiguities,

To selection and formulate a research problem,
Following research steps are helpful

- Step 1: Brainstorm for ideas. ...
- Step 2: Read General Background Information.
- Step 3: Focus on Your Topic. ...
- Step 4: Make a List of Useful Keywords. ...
- Step 5: Be Flexible. ...
- Step 6: Define Your Topic as a Focused Research Question.

Review of Literature

Researcher should undertake extensive literature survey connected with the problem.

For this purpose, the abstracting and indexing journals and published or unpublished bibliographies are the first place to go to.

Academic journals, conference proceedings, government reports, books etc., must be tapped depending on the nature of the problem.


The earlier studies, if any, which are similar to the study in hand should be carefully studied. A good library will be a great help to the researcher at this stage.

Significance

- Provide foundation of knowledge on topic.
- Identify areas of prior scholarship to prevent duplication and give credit to other researchers.
- Identify inconsistencies
- gaps in research,
- conflicts in previous studies,
- open questions left from other research.

Sources

Primary Literature	Secondary Literature	Tertiary Literature
Original research results in journals, dissertations, conference proceedings, correspondence	Review articles, systematic reviews, meta- analysis, practice guidelines, monographs on a specific subject	Textbooks, encyclopedias, handbooks, newspapers



Research Design

Meaning, Stages, Characteristics and Significance of Research Design

“A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.

the research design is the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data.

- (i) What is the study about?
- (ii) Why is the study being made?
- (iii) Where will the study be carried out?

- (iv) What type of data is required?
- (v) Where can the required data be found?
- (vi) What periods of time will the study include?
- (vii) What will be the sample design?
- (viii) What techniques of data collection will be used?
- (ix) How will the data be analysed?
- (x) In what style will the report be prepared?

A good design is often characterized by adjectives like flexible, appropriate, efficient, economical and so on

Neutrality: The results projected in research design should be free from bias and neutral. Understand opinions about the final evaluated scores and conclusion from multiple individuals and consider those who agree with the derived results.

Reliability: If a research is conducted on a regular basis, the researcher involved expects similar results to be calculated every time. Research design should indicate how the research questions can be formed to ensure the standard of obtained results and this can happen only when the research design is reliable.

Validity: There are multiple measuring tools available for research design but valid measuring tools are those which help a researcher in gauging results according to the objective of research and nothing else. The questionnaire developed from this research design will be then valid.

Generalization: The outcome of research design should be applicable to a population and not just a restricted sample. Generalization is one of the key characteristics of research design.

Significance of Research Design

- It reduces inaccuracy;
- Helps to get maximum efficiency and reliability;
- Eliminates bias and marginal errors;
- Minimizes wastage of time;
- Helpful for collecting research materials;
- Helpful for testing of hypothesis;
- Gives an idea regarding the type of resources required in terms of money, manpower, time, and efforts;
- Provides an overview to other experts;
- Guides the research in the right direction.

- Consumes less time.
- Ensures project time schedule.
- Helps researcher to prepare himself to carry out research in a proper and a systematic way.
- Better documentation of the various activities while the project work is going on.
- Helps in proper planning of the resources and their procurement in right time.
- Provides satisfaction and confidence, accompanied with a sense of success from the beginning of the work of the research project.