Research Methodology

UNIT -4

TOPICS:

- **Research & types of researches**
- **Quantitative research and its type**
- **Qualitative research and its types**
- **Report Writing- Format and style of the report writing**

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Research: Definition
A careful consideration of study regarding a particular concern or problem using scientific methods.

OR

According to the American sociologist Earl Robert Babbie, “Research is a systematic inquiry to describe, explain, predict, and control the observed phenomenon. Research involves inductive and deductive methods.”

Types of research’s

Quantitative research:

Qualitative research is a structured way of collecting data and analyzing it to draw conclusions. Unlike qualitative methods, this method uses a computational and statistical process to collect and analyze data. Quantitative data is all about numbers. Quantitative research involves a larger population -more people means more data. With more data to analyze, you can obtain more accurate results. This method uses close-ended questions because the researchers are typically looking to gather statistical data.

There are four main types of quantitative research designs: descriptive, correlational, quasi-experimental and experimental.

Descriptive research

Descriptive research is defined as a research method that describes the characteristics of the population or phenomenon that is being studied. This methodology focuses more on the “what” of the research subject rather than the “why” of the research subject.

Correlational research

Correlational research tests for the relationships between two variables. Performing correlational research is done to establish what the effect of one on the other might be and how that affects the relationship. Correlational research is conducted in order to explain a noticed occurrence. In correlational research the survey is conducted on a minimum of two groups. In most

correlational research there is a level of manipulation involved with the specific variables being researched. Once the information is compiled it is then analyzed mathematically to draw conclusions about the effect that one has on the other.

Quasi-experimental research

Quasi-experimental research involves the manipulation of an independent variable without the random assignment of participants to conditions or orders of conditions. Among the important types are nonequivalent groups designs, pretest-posttest, and interrupted time-series designs

Experimental research

Experimental research is guided specifically by a hypothesis. Sometimes experimental research can have several hypotheses. A hypothesis is a statement to be proven or disproved. Once that statement is made experiments are begun to find out whether the statement is true or not. This type of research is the bedrock of most sciences, in particular the natural sciences.

Qualitative research:

Qualitative research is a process that is about inquiry. It helps create in-depth understanding of problems or issues in their natural settings. This is a non-statistical method. Qualitative research is heavily dependent on the experience of the researchers and the questions used to probe the sample. The sample size is usually restricted to 6-10 people. Open-ended questions are asked in a manner that encourages answers that lead to another question or group of questions. The purpose of asking open-ended questions is to gather as much information as possible from the sample.

Types of Qualitative research

The six types of qualitative research are the phenomenological model, the ethnographic model, grounded theory, case study, historical model and the narrative model.

- Phenomenological Method
- Ethnographic Model
- Grounded Theory Method
- Case Study Model
- Historical Model
- Narrative Model.

Pragmatic approach to research (mixed methods)

The pragmatic approach to science involves using the method which appears best suited to the research problem and not getting caught up in philosophical debates about which is the best approach. Pragmatic researchers therefore grant themselves the freedom to use any of the methods, techniques and procedures typically associated with quantitative or qualitative research. They recognize that every method has its limitations and that the different approaches can be complementary.

Other types of research

Descriptive research is defined as a research method that describes the characteristics of the population or phenomenon that is being studied. This methodology focuses more on the "what" of the research subject rather than the "why" of the research subject.

Longitudinal Research a longitudinal study is an observational research method in which data is gathered for the same subjects repeatedly over a period of time. Longitudinal research projects can extend over years or even decades. In a longitudinal cohort study, the same individuals are observed over the study period

Cross-sectional Research is a study in which subjects of different ages are compared at the same time. It is often used in developmental psychology, but also utilized in many other areas including social science, education and other branches of science.

Action research is a philosophy and methodology of research generally applied in the social sciences. It seeks transformative change through the simultaneous process of taking action and doing research, which are linked together by critical reflection.

Report Writing- Format and style of the report writing

Report Writing

Report writing is a formal style of writing elaborately on a topic. The tone of a report is always formal. The audience it is meant for is always thought out section. For example – report writing about a school event, report writing about a business case, etc.

Reports may contain some or all of the following elements:

- A description of a sequence of events or a situation;
- Some interpretation of the significance of these events or situation, whether solely your own analysis or informed by the views of others, always carefully referenced of course (see our page on Academic Referencing for more information);
- An evaluation of the facts or the results of your research;

- Discussion of the likely outcomes of future courses of action;
- Your recommendations as to a course of action; and Conclusions

Format and style of the report writing

Report Writing Format

Here are the main sections of the standard report writing format:

- **Title Section** – This includes the name of the author(s) and the date of report preparation.

- **Summary** – There needs to be a summary of the major points, conclusions, and recommendations. It needs to be short as it is a general overview of the report. Some people will read the summary and only skim the report, so make sure you include all the relevant information. It would be best to write this last so you will include everything, even the points that might be added at the last minute.

- **Introduction** – The first page of the report needs to have an introduction. You will explain the problem and show the reader why the report is being made. You need to give a definition of terms if you did not include these in the title section, and explain how the details of the report are arranged.

- **Body** – This is the main section of the report. There needs to be several sections, with each having a subtitle. Information is usually arranged in order of importance with the most important information coming first.

- **Conclusion** – This is where everything comes together. Keep this section free of jargon as most people will read the Summary and Conclusion.

- **Recommendations** – This is what needs to be done. In plain English, explain your recommendations, putting them in order of priority.

- **Appendices** – This includes information that the experts in the field will read. It has all the technical details that support your conclusions.

Remember that the information needs to be organized logically with the most important information coming first.

The style of reports should be concise, giving precise detail. Flowery language should not be used. Data may be presented as charts, graphs or tables, if appropriate. Descriptions of methodology should be sufficiently clear and detailed to allow someone else to replicate them exactly.