
UNIT 5 RESEARCH DESIGN

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Learning Outcomes

After reading this unit, the learner will be able to:

- Define what research design is and the kinds of research designs there are;
- Describe the steps to follow in order to create a good research design;
- Prepare references/bibliography, foot-notes/end-notes etc., confidently; and
- Apply digital technology in research comfortably.

5.0 INTRODUCTION

You have by now learnt from the earlier units in this course about the importance of research in anthropology and how anthropology is identified as a valid field science. But for all research to be focused and original, it needs to follow certain norms. Before we choose a topic to conduct a research on, and before we create an outline of how the research is to be conducted, we have to be amply clear about what research means. Simply speaking, research can be seen as a methodical inquiry into and logical scrutiny of resources and information so as to ascertain facts, arrive at conclusions and decipher new findings. An equally imperative part of research is to disseminate meaningful knowledge. Kothari (2004) has defined research as a pursuit of truth with the help of study, observation, comparison and experiment, the search for knowledge through objective and systematic method of finding solutions to a problem.

To therefore conduct meaningful research, a rational way should be followed. This is where research design comes in. Research design can be of various kinds and it also provides essential steps to follow so that research may be conducted justly. The purpose of this lesson is to acquaint you to research design in a simple yet distinct way, so that it provides you with the training to conduct research confidently.

Check Your Progress

1. What is research?

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5.1 ESSENTIALS OF RESEARCH DESIGN

Research design is the blueprint of the main research planned. It includes the structure and background of the research methods, tools and techniques to be used. Research design is helpful as it allows the researcher to know which methods to use to investigate a particular problem and thus also allows to master the method. This can lead to a successful research. To define a research design, it is “the plan, structure and strategy of investigation conceived so as to obtain answers to research questions and to control variance” Kerlinger (1986:10). Having explained briefly what a research design implies, let us now discuss the characteristics of a research design. If your research is well designed, the lesser you will face issues while conducting research and collecting required data.

Broadly research design as an outline describing the process of research, includes aspects of what data is to be collected, how it is to be collected, what tools and techniques are to be utilised and finally how the data is to be evaluated. The way to go about is to remind oneself throughout that the purpose of a research is to accomplish the aims and objectives thought out by the researcher.

Specifically, the main characteristics of a good research design are:

- i.** It is a blueprint that clearly states the aims and objectives of the research study;
- ii.** It is an outline that identifies the resources and the methods, tools and techniques to be applied to the research;
- iii.** It is a framework that ascertains that the information or data gathered is unbiased, consistent, legitimate and rational.

Once you are clear about the features of a good research design, you have to then be aware of the category in which your research will fall into. There are many kinds of research design but before deciding which kind to fit your research plan into, we should first understand, in which category broadly it will fall.

Check Your Progress

2. Define research design.

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3. What are the main characteristics of a good research design?

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5.2 KINDS OF RESEARCH DESIGN

Broadly research design is fundamentally divided into qualitative and quantitative research.

Let us first try to know what qualitative research is.

i. Qualitative research: It is characteristically explanatory, runs like a narrative, telling the story of the people, community or culture studied. It does not have an association with quantitative data but sometimes takes its help to answer general questions about the culture studied. This kind of research tries to first see what exists around us and why does it exist the way it does. It also tries to understand the changes observed descriptively. An important method to conduct qualitative research in anthropology is through the observation method. Rapport establishment is a much needed aspect in qualitative research and thus the sample size in which research is conducted is generally small.

Check Your Progress

4. The sample size in qualitative research is huge. State whether this is True or False.

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ii. Quantitative research: Unlike qualitative research, in quantitative research, the investigation is conducted with the help of surveys and censuses. More than collection of people’s narratives and accounts, here the quest is to look for accurate demonstrable data. For example, the number of people in a household; or kinds of families existing in a community; or Telugu speaking people in Delhi etc. Hence the data here is based on definite proof and requires a large group of people to be taken as a sample of study. The research data collected through this method can be analysed with the help of statistical tools in order to arrive at results.

Check Your Progress

5. What tools are used to analyse quantitative data?

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On the basis of these two broad kinds of research design, let us now look at specific kinds of research design which can either be conducted through as part of qualitative or quantitative research design.

5.2 KINDS OF RESEARCH DESIGN

Following a particular kind of research design allows to conduct research according to the plan in mind. It assists in the fulfilling of the purpose of the research. It aids in the creation of refined, applicable and correct results. So it is important to know the kind of research design you would want to use. Let us see here some of the significant research designs that are followed by researchers.

a. Descriptive research

It is where a phenomenon is specifically and concretely described. If one would like to proceed with an explanatory form of research design then one has to provide a good description of the research problem. For example to know why there is gap between poor and rich people, it can only be known if such a gap actually exists. Descriptive study can help in viewing this gap if it is there.

b. Explanatory research

It answers the why which arises from any descriptive study. For example, the reason for presence of more women domestic help as compared to men domestic help can be studied through the explanatory research.

c. Experimental design

Experimental design is a tad bit difficult to apply for researchers studying human beings. However if the opportunity arises, such researchers do make use of the experimental design. It is fundamentally the testing of an independent and a dependent variable and include two groups, that is the control group, where things are as it is, and experimental group, where things have been adjusted to get a result. This design in social sciences can be tested in a laboratory, a field and in natural social world. Statistical analysis is done in such design and it is used to mainly find the differences between the control group and the experimental group.

d. Longitudinal design

A longitudinal design which is also known as a panel design involves the study of the same selected variables over a long period of time. It mostly uses observation as its main method of study. Longitudinal studies can range from studying variables as they are and without manipulating them, from over a week to as long as decades. An example can be observation of a person and her weight loss journey. Covid 19 and its impacts can well become a good longitudinal study.

e. Cross sectional design

This is the opposite of longitudinal design. In a cross-sectional design different samples or a “cross-section” of a population are studied at a single point of time. As such kind of a study is shorter it is hence also cheaper to carry out. Cross-sectional design falls under the gamut of descriptive studies. It helps in knowing about various characteristics which can be found in a population and informs about present happenings in it. For example it can show the intensity of domestic violence in a community happening at the time the study is undertaken.

Check Your Progress

6. Which research design explains the “what” and “how” of a phenomenon?

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7. Which research design explains the “why” of a phenomenon?

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8. What kind of groups are tested in an experimental design?

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9. Fill in the blank space:

A longitudinal design is also known as a.....

Once the kind of research is comprehended then we can think of how to design the research sequentially to build a fool proof research plan. Let us see below how this can be done.

5.3 STEPS TO PREPARE A RESEARCH DESIGN

Once the type of research design is decided upon, the main blueprint needs to be prepared. This chronological checklist helps the researcher to remain focused in the investigation and does not allow any form of divergent until there is an unforeseen situation which demands any change. So let us discuss each step one by one.

a. Choosing a problem

To conduct a research investigation, there has to be something to research on. This something is your research problem. Throughout your anthropological training, as you progress, you will slowly develop interest in areas and issues about which you will start to make meaningful enquiries, or start framing questions about them. This can concretely be dealt with as

you embark upon to test your anthropological skills in the field by conducting research on any relevant concern you had framed in your mind. However this cannot be done randomly. This is why the discussion that you have had in this unit till now, adequately helps you to rationally choose your problem and work on it. This problem which generally is also known as the topic of research has to be focused, rational and achievable. Sometimes a well sought after problem can yield results which can even be used with an aim to assist policy making. The problem chosen should have to be one, which can be easily and efficiently described. This helps in maintaining clarity in research. While choosing a research problem, the main things that have to be kept in mind are: i. What do I want to know?; ii. Why do I want to know about it?; and What can be the answers to the questions I have in mind? If at the very beginning, the problem exhibits lesser flaws and is motivated, more the chance is to create a good and convincing research result.

Check Your Progress

10. What are the main things to be kept in mind while choosing a research problem?

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b. Statement of the problem

A statement of the problem gives the framework to the research problem at hand. It tries to answer the question: what is the problem that the research is going to investigate. The main aim of a statement of the problem is to depict a broad concern in a focused distinct manner. The problem should have the capacity to be solved through careful systematic investigation. The statement of the problem thus assists in noticeably categorising the intent of the research which is planned to be carried out. Thus a statement of the problem should possess the following features like, i. it should deal with a gap in dissemination of knowledge; ii. It should be valid enough to add new meaning to already existing knowledge; iii. It should allow avenues for newer research; iv. The problem should be researchable through the use of proper methods of data collection; v. it should display the researcher’s interest to the problem based on her/his abilities, time and means; and vi. It should show that the problem addressed is ethically done.

Check Your Progress

11. Define statement of the problem.

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12. What are the features of a statement of the problem?

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c. Reviewing the literature

Fink has defined literature review as something which, “surveys books, scholarly articles, and any other sources relevant to a particular issue, area of research, or theory, and by so doing, provides a description, summary, and critical evaluation of these works in relation to the research problem being investigated” (2014).

Literature review is done elaborately before commencing into the field. This is done by collecting as many relevant resources as possible to read through them and to make a connect with the present chosen research problem. Literature review is also done in between field visits to gather deeper understanding of the problem studied. Literature review is done of works which contain similar content of the present research explored. It is done to provide and elucidate new meanings to earlier works or a combination of old and new understanding. Majorly literature review recognises the gaps in the works examined. Literature review assists in the taking of one’s research a step forward where the earlier resources had stopped.

Check Your Progress

13. What is literature review in research?

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d. Aims and objectives

The aim in research is the intent or the target which is to be achieved. Aims are broad statements of desired outcomes, or the general intentions of the research, which ‘paint a picture’ of your research and what you hope to attain by the end of it. It addresses the long term research expectations and outcomes and should be expressed in a way that it can be decipherable when it is attained.

When your aims are clear for your research agenda, then the next job is to formulate the associated objectives of the aim. The objectives should be focused, connected and not too many so as to not get distanced from the main agenda at hand.

Research objectives are supplementary to the aim. The objectives are the actual steps which the researcher will take in order to reach the goals as anticipated in order to answer the research question. So objectives in a way talk about the what, why, who, when and how of the research. For one to remain focused during

the research study, one should keep coming back to the objectives to check if s/he is moving correctly. Objectives should be realistic, sensible and precisely described.

Check Your Progress

14. Define aims and objectives. Why is it important in research?

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e. Hypothesis

A hypothesis is a speculation. It is a speculation or prediction about the problem posed by the researcher. It is something which can be viewed as an explanation (in this context, a theory) which is tentatively accepted till the phenomenon studied is proved correct or is accepted as suitable. Hence to use a hypothesis, an existing theory has to be tested in the on-going research. It is tested by making observations in the field to draw a conclusion from the unspecific to the exact. The field must have the ingredients to prove a theory as a fact. So when this happens, the hypothesis is proved to be correct and valid. Mostly in ethnographic studies, a hypothesis is not used anymore and researchers go with an open mind and believe in building of theories on the basis of observations made in the field.

Check Your Progress

15. What is a hypothesis?

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f. Unit and Universe of Study

In a research design before using methods to conduct research we have to mention the unit and universe of study. The unit of analysis is the major entity that is being analysed in a study. It is the ‘what’ or ‘who’ that is being studied. In your research, typical units of analysis will include individuals (most common), groups, social organisations and social artifacts. The universe is the population which represents the entire group of units that is the focus of your study. Thus, the population could consist of all the persons in the country, or those in a particular geographical location, or a special ethnic or economic group, depending on the purpose and coverage of your study.

Check Your Progress

16. Who is a unit and universe of study?

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g. Methods to be used

Methods describe actions to be taken to investigate a research problem and the rationale for the application of particular processes or modes of operation used to categorise, choose, deal with and evaluate data employed to understanding the problem, thereby, allowing the reader to judiciously examine a research’s complete legitimacy and dependability.

Methodology includes a gamut of processes in research and therefore let us understand methodology, methods and tools and techniques separately.

Methodology: It is the outline strategised to understand how research is to be commenced. It identifies the methods to be used.

Methods: Methods are the means of data collection. Some of the major methods are observation, case-study, genealogy, pedigree analysis, statistical methods etc.

Tools and Techniques: The ways by which methods are actually put to action are the techniques and tools. For example: If interviewing is a method, then the technique will be an interview guide and the tool can be an interview schedule. Some of the popular techniques of investigation are survey, census, interview etc., and the tools can be questionnaire, interview guide, interview schedule etc.

A research design in its steps also mentions the requirement of secondary sources if the research demands it. Secondary data is information which is not first-hand and suggests that they have already been collected primarily before and now are available in various places to access. These places may be a library, an archive, a database, the internet etc. Secondary sources helps the researcher to authenticate either her/his own planned research problem or test her/his research findings.

Depending on the kind of research or investigation you are doing, the tools for data collection will be chosen. More elaborate discussion on methods, tools and techniques have been provided on Unit 6 and 7.

Check Your Progress

17. What is the difference between methodology, methods, techniques and tools?

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h. Analysis of Data

The research design towards the end emphasises on the analysis of data which will be dealt with once the research findings are put together. Analysis

of data can be done quantitatively or qualitatively. The former is done with the help of statistical tools and they are neatly and concretely represented. The latter is done through words or what we call as narratives and accounts.

i. Relevance of the study

In the research design, lastly the researcher must mention the relevance of study. It is to let the reader know why the study has been conducted, its justification, its purpose, what is to be gained from the study and who is to benefit from it. It is a statement informing about the importance of the research study. This rational explanation is required as it can assist the reader (a reviewer, an examiner, a granter) to assess the research manuscript better.

Check Your Progress

18. Analysis of data can be both.....(complete the sentence)

19. Is it important to know about the relevance of the study in research design? Why?

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5.4 ASSOCIATED ASPECTS IN RESEARCH DESIGN

A research design while acting as a preliminary base for the main research, it incorporates in its structure, along with all the aspects discussed above, certain inherent facets which have an equally important role to play in the whole research process. These are what we call as bibliography and references. Along with them smaller parts like foot notes, end notes, glossary etc. can also be taken into consideration. Let us first see what bibliography and references entail.

a. Bibliographies

It includes all sources that the researcher collects, reads and uses to take forward in order to assist research and writing but does not necessarily cites them in the text. It consists of all published and unpublished work that the researcher consulted to write her/his research proposal or research paper. Citation styles basically used in bibliographies are Oxford and Chicago styles.

b. References

It includes sources which the researcher cites in the text and not just consults. Sources may be cited once or more throughout the text. If the same source is cited continuously, then in place of the author’s name and year of publication, the term *ibid* is used. *Ibid* is an abbreviation and comes from the Latin word *ibidem* which means “in the same place”. The main citation styles used in references are APA, AMA and MLA citations.

It is important that both bibliographies and references should follow the alphabetical order (A to Z) and should display the surname first. The practical manual of the course BANC-102 can be referred to see the referencing style.

Check Your Progress

20. What is the main difference between bibliography and references?

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c. Footnotes

A note citing a particular source or providing an explanation of any word or phrase etc., found at the bottom of the same page where the matter explained as a footnote is found. Footnotes are beneficial in the sense that the reader can find the description of any content which requires a short clarification or details at the end of the page itself. This means the reader does not have to rummage through the pages and to reach a particular end page to find the description. However footnotes can clutter the page if there are too many and can affect the main contents of the page adversely if it allows only little space to the main text.

d. Endnotes

Endnotes have the same content as footnotes, but instead of them being found at the end of each page, they are found at the end of the proposal, paper, article, book etc. The plus point about endnotes are that all descriptions and meaning of particular words, sentences or phrases requiring further explanation can be found at one place together. Hence the reader can comfortably read the endnotes simultaneously. However a minus point about endnotes is that, every time a reader needs to know the meaning of any content, s/he will have to go to the end to know about it. This moving back and forth, may be quite upsetting to the reader.

Whether the researcher chooses to use footnotes or endnotes, one thing that s/he should keep in mind is that they should not disrupt the flow of the original text or content. They should be in rhythm with it.

Check Your Progress

21. Mention an advantage of footnotes.

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22. Mention a disadvantage of endnotes.

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5.5. ROLE OF TECHNOLOGY IN RESEARCH DESIGN

Today the whole process of research starting from the research design to the creation of the main product, research is amply supported by digital and online technology. Digital technology has made research designing and conducting of research a much comfortable task. If we consider the steps of a research design, beginning from the selection of topic, we can create a valid statement of the problem, make use of the digital and virtual platform to find out resources at the pressing of a click to get answers. Devices like the laptop, tablet, smart phones can make the use of digital technology in research better. There are innumerable online resources and many being part of creative commons, allow looking for an understanding of a research problem easier. Literature Review which is a vital part of any research design, can be built by browsing through the internet, and visiting online repositories and consortiums from where relevant material can be collected. Social media also plays an important role in research design from where immense information can be collected. Conducting of research in accordance to research methods can now be easily done through use of “Google Forms” to create questionnaires. These can easily reach the homes of many in a second through any mailing or sharing sites. Interviews or case-studies can be collected through online platforms like, Zoom, Google Meet, WhatsApp video call etc. This process of doing research has proved to be quite helpful during COVID 19. Even cited works can be highlighted through “cited works” option in MS word and can be viewed immediately at the place of the citation itself in the text. Statistical analysis can be performed easily and without any complications with the help of softwares like SPSS and ANOVA.

This is a brief and simplistic description of use of digital technology in research design. This was presented crisply in order to help the students understand how research design and research have become a part of the digital world too.

Check Your Progress

23. Name a few online platforms where a researcher can conduct interviews?

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5.6 SUMMARY

This unit on research design can be considered as one of the most important lessons belonging to this course. The main takeaway from this course can be to have a better knowledge of what research is and how it is conducted using justifiable methods. In all this, research design plays a significant role as it is the design which paves the way for a rational research investigation and final creation of knowledge. Thus this unit systematically discusses each process involved in a research design. The unit covers each aspect of a research design judiciously starting from its definition, to explaining its main features. The unit also deals

with the major kinds of research design and talks about which kind fits which type of research best. The steps to design a research design which can be seen as the backbone of any research are thoroughly described. Towards the end of the lesson certain small yet noteworthy aspects of a research design and research writing are discussed and finally the unit ends with a brief insight into the use of technology in research design.

5.7 REFERENCES

Fink, Arlene. (2014). *Conducting Research Literature Reviews: From the Internet to Paper* (4th edition). Thousand Oaks, CA: SAGE

Kerlinger, F. (1986). *Foundation of Behavioural Research* (3rd ed.) New York: Holt, Rinehart, and Winston

Kothari, C.R. (2006). *Research Methodology: Methods & Techniques*. (2nd ed.). New Delhi: New Age International (P) Limited Publishers

5.8 ANSWERS TO CHECK YOUR PROGRESS

1. Refer to the 1st paragraph in section 5.0.
2. Refer to the 1st paragraph in section 5.1.
3. Refer to the 3rd paragraph in section 5.1.
4. False.
5. Statistical tools.
6. Descriptive research design
7. Explanatory research design.
8. Control group and experimental group
9. Panel design
10. See part **a** of section 5.3
11. and 12. See part **b** of section 5.3
13. See part **c** of section 5.3
14. See part **d** of section 5.3
15. See part **e** of section 5.3
16. See part **f** of section 5.3
17. Refer to the 2nd paragraph of section 5.3
18. Qualitative and quantitative
19. See part **i** of section 5.3
20. See parts **a** and **b** of section 5.4
21. See part **c** of section 5.4
22. See part **d** of section 5.4
23. Zoom, Google Meet, WhatsApp Video call etc.