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DEPARTMENT OF RELIGIOUS STUDIES

COURSE CODE: CRS801

**COURSE TITLE: ADVANCED RESEARCH METHODS IN CHRISTIAN
THEOLOGY**

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Course Materials

Major components of the course are:

1. Study Units
2. Textbooks
3. Assignments' File
4. Presentation Schedule

1. Study Units

There are fourteen study units in the course, Advance Research Methods in Christian Theology. They are broken down as follows:

MODULE 1: UNDERSTANDING RESEARCH PROCESSES

Unit 1:	The Nature of Academic Research
Unit 2:	Research Process in Christian Theology
Unit 3:	Research Proposals
Unit 4:	Research Questions and Hypothesis
Unit 5:	Research Report

MODULE 2: RESEARCH DATA

Unit 1:	Literature Review
Unit 2:	The Citation Styles
Unit 3:	Internet Research
Unit 4:	The Use of Library in Research

MODULE 3: RESEARCH FIELD AND RESEARCH ETHICS

Unit 1	Methods of Data Collection
Unit 2	Population Sampling
Unit 3	Case Study
Unit 4	Research Ethics
Unit 5	Plagiarism
Unit 6	Methods in Theological Research

References

We have included a list of books that are relevant for every unit. You will gain greatly if you read such books and similar ones on the topics treated. Reading the books will help to build your knowledge and thereby enhance your understanding of the course.

Assignment File

Your assessment in this course will come in two forms: the tutor-marked assignments and a written examination. The tutor-marked assignment which will be organised by your tutor carries 30% of the total marks for the course.

Tutor-Marked Assignment

There is a tutor-marked assignment at the end of every unit. You are advised to solve the assignments and submit your solution to your tutor. At the end of the course, the tutor-marked assignments will carry 30% of the total marks of the course.

Final Examination and Grading

Your final examination, which carries 70% of the total marks, comes at the end of the course. This will constitute a two-hour examination, where you will be asked questions on the issues that you have already encountered in the course of your study.

Course Marking Scheme

The total marks accruable to you from this course are broken down as follows:

Assessment	Marks
Assignments	Four assignments of 10% each, out of which the best three is selected to make up 30% of the total marks
Final Examination	70% of the total course marks
Total	100% of course marks

How to Get the Most from this Course

In distance learning, the study units replace the university lectures. You are therefore expected to read through the course on your own and at your own time. Another aspect of this is that you do not read at the prompting of your tutor. You read when you decide to do so. Since there is no lecturer for you in this course, the study unit tells you what to do at each point. It will benefit you immensely if you obey its instructions.

The units are arranged in a common format. The first item of every unit is an introduction to the subject matter of the unit, and how a particular unit is integrated with the other units and the course as a whole. What follows next is a set of learning objectives. These objectives, as already stated, let you know what you should be able to do by the time you have completed the unit. These learning objectives are meant to guide your study. You are advised to go back to the stated objectives at the end of every unit, to know whether you have achieved them in the course of your learning.

The self-assessment exercises at the end of the units are to help you to assess your understanding of the units. Do not neglect them as the way you answer them provides you with a mirror to gauge your performance in learning the course.

Tutors and Tutorials

Your tutor will provide a human guide for you in the course of this work. However, you are to have only Fifteen hours of contact with him in the course of your study of this course. Pay close attention to your tutor. If you have any question to ask as regards the course it is your tutor that will provide the answer. He will also mark your tutor-marked assignments. You should try as much as possible to attend all the tutorials. Doing so will be of benefit to you.

Summary

This course is meant to prepare you for the onerous task of research writing which is a major requirement of your programme and which you must carry out towards the end of your study. It gives you invaluable tips on how to proceed and on how to come out with a successful research. Good luck!



MAIN COURSE

MODULE 1: UNDERSTANDING RESEARCH PROCESSES

Unit 1:	The Nature of Academic Research
Unit 2:	Research Process in Christian Theology
Unit 3:	Research Proposals
Unit 4:	Research Questions and Hypothesis
Unit 5:	Research Report

UNIT 1: THE NATURE OF ACADEMIC RESEARCH**CONTENTS**

1.0 Introduction
2.0 Objectives
3.0 Main Content
3.1 What is Research?
3.2 General Characteristics of Research
3.3 Qualities of a Good Researcher
3.4 Classifications of Research
3.5 Significance of Research in Christian Theology
4.0 Conclusion
5.0 Summary
6.0 Tutor-Marked Assignment
7.0 References/Further Reading

1.0 INTRODUCTION

As a part of the university requirements, you should, towards the end of your study, submit a research report in the form of a project to your department, in our own case Christian Theology. As a result, you are expected to study CRS801 entitled *Advance Research Methods in Christian Theology* to guide you into carrying out a thorough investigation of any specific topic.

Your project is successful only when it is well-organized, properly documented and carefully edited. Perfection should be your watchword. You are a researcher if you possess the virtue of a good scholar, which demands, *inter alia*, that you should be orderly, logical, honest, thorough, imaginative and accurate in whatever aspect of study you have chosen to investigate.

This manual is prepared to guide you through the necessary procedure you may, considering the advice of your supervisor, adopt for effective research writing in the Department of Christian Theology. Its main thrust is uniformity and the purpose is scholarship.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- define research
- explain different characteristics of research
- explain characteristics of scientific methods
- outline and discuss various qualities of a good researcher.

3.0 MAIN CONTENT

3.1 What is Research?

In a layman's position, research implies probing into the unknown in order to find out something or discover a new situation. It is generally the act of finding out the solution to a problem or an answer to a question. Naturally, man in the course of his day-to-day activities, constantly indulges in searching and searching again and again in order to discover new facts obtainable in his environment, provide answers to existing questions or solutions to existing problems. To this end, research as an activity, has permeated into virtually all aspects of human endeavours. Problems of different kinds abound in all walks of life: education, government, commerce and industry, mass media, administration, health and sciences, arts, law, etc. It is basically through the process of research that man seeks and obtains solutions to the problems' situations. By so doing, man improves, extends his knowledge and develops his environment for his overall benefits and better survival.

In a strict sense, and scholarly too, research is more than just searching for solutions to problems. The search must follow an acceptable, planned, systematic and objective procedure for it to be acknowledged as research. On this note, we can, therefore, define research as an acceptable, planned, systematic and objective investigation into the unknown mainly for purposes of discovering new knowledge of the subject of study, and/or application of knowledge to obtain the solution to a new problem for the advancement, refinement and improvement of a given situation.

Self-Assessment Exercise 3.1

Define Research

3.2 General Characteristics of Research

In the consideration of the afore-stated, one deduces a number of characteristics associated with research generally, namely:

1. Research aims at solving problem(s). It provides answers to physical, social, educational or management problems.
2. Activities involved in research are conducted in a careful, organized and systematic manner, ranging sequentially from the introduction to the drawing of conclusions.

3. Research insists on objectivity. This is achieved through deliberate efforts in preventing the researcher's personal prejudices/biases from affecting the activities of the research.
4. Research is rooted to accurate observable experiences and descriptions.
5. It is based on empirical evidence. Predictions and generalizations emanating from research can be verified.
6. Research gives rise to the development of generalizations, principles, laws, or theories that are useful in predicting future occurrences.

Self-Assessment Exercise 3.2

List five characteristics of research

3.3 Qualities of a Good Researcher

Characteristics of research as discussed above have far-reaching implications for a researcher. The following constitute the basic qualities of a good researcher. Prospective researchers are expected to imbibe the qualities for success in their research activities.

1. Good Training

Any researcher that is worth his or her salt must be well-trained in the overall procedures and activities of research in order to cope with varying demands of different stages of research.

2. Creativity and Imagination

A good researcher must possess a high degree of curiosity, creativity and imaginations that would help him grapple with the challenges of conducting research, particularly in a developing country, like Nigeria. Possession of curiosity is of paramount importance. This is because it is his curiosity that enables him to indulge in an investigation in the first place, probing into the unknown phenomenon in creative styles and imaginations, with a view to establishing its existence.

3. Patience/Endurance

This is an essential quality of a good researcher. A patient researcher is very accommodating and so tolerates delays and unwilling respondents; still insisting on useful results. He/she can endure in situations of financial constraints or various difficulties that may hinder easy accessibility of information. When respondents display negative/disturbing attitudes, the researcher presses on, making positive attempts at resolving the circumstances, for purposes of successful results.

4. Ability to Carry Out an Independent Study

A good researcher possesses, to his credit, the intellectual ability that propels him/her to embark successfully on an independent study, with devotion geared towards achieving the objectives of the researcher.

5. Ability to Work in a Group of other Researchers

Apart from the ability to carry out an independent study, a good researcher should also possess the ability and understanding needed in a group work involving other researchers of the same or different cultures and disciplines. To achieve this, he needs the spirit of tolerance, love for one another and the joy of working together in a group, all for purposes of recording success, progress and development in the chosen research area.

6. Objectivity

The quality of objectivity demands that a good researcher should, under no circumstances, allow their personal background, culture or bias to affect the activities of the research. They must be objective in all respects.

7. Extensive Reading

Success in any academic research demands extensive reading. To this end, a good researcher must be a voracious reader, reading every relevant material in the course of their research, with a view to discovering new facts and detecting any lacuna in knowledge. Besides, extensive reading strengthens their intellectual ability and so offers more avenues for creativity.

8. Logical Reasoning

Mental ability for logical thinking/reasoning is a prerequisite for any meaningful research. Any researcher that lacks the ability to think and reason logically may end up embarking on illogical and disorganized activities that lack coherence and may not discriminate between useful and useless information. The result is distorted exercise, abysmal failure, a waste of time, energy and resources.

9. Diligence and Optimism

A good researcher must be diligent, positive and optimistic at every stage of the research. It is advisable that he/she emulates the diligent and optimistic styles of Thomas Edison. This means he/she should neither give up nor feel discouraged as a result of difficulties or failures at different levels of his/her investigations. Determination and perseverance should be his/her key and so fuel his/her desire to carry on the research until success is achieved.

This point is in line with the observation of a certain wise person:

When you can keep on trying after three failures in a given undertaking, you may consider yourself a candidate of a leadership role in your present occupation. If you can keep on trying after a dozen failures, the seed of genius is sprouting in you!

A good researcher must not allow circumstances or obstacles to defeat his willingness and determination to round off his investigations successfully.

10. Time Management

A good researcher knows that time is his most precious commodity and so values it even above wealth. Effective investigations demand that the researcher should plan his time well, schedule

their agenda appropriately and avoiding procrastination. A trained researcher sees waste of time as a capital crime. This is even more essential in academic research, where a specific period of time is allotted to research work.

11. Preparation/Planning

A gram of preparation can save tons of agony. Success in any investigation is dependent upon the investigators' ability for adequate preparation. In other words, without preparation, the research is sure to fail. To succeed, a researcher should find time to plan the A to Z of the activities of the research for successful hitch-free exercise.

12. Self-Confidence

Lack of self-confidence is, usually, the reason behind the academic fraud known as *plagiarism*. A good researcher should believe firmly and unflinchingly in his abilities to succeed in his investigations. He should not allow an iota of doubt to creep into his confidence. This is essential because years wrinkle the skin but lack of self-confidence wrinkles the mind. Self-confidence is the first pre-requisite for any fruitful exercise, research inclusive.

13. Clarity

A research can only yield successful result if the researcher is crystal clear about the type/nature of the research they are going to undertake. Is it a research on education, science, arts, social studies, mathematics, English, Geography, etc.? What type of research is necessary for the subject/topic of the study? Is it a basic research, applied research, action research, descriptive, historical, or experimental research? A good researcher asks questions and finds answers to these questions to help them know where to target their preparations/planning in the step-by-step procedures of the research. Researchers who probe aimlessly never succeed. A person who does not know where they is going to might miss their destination. Therefore, as a researcher who intends to succeed, with effective results, decide on the purpose of your research, target your investigations superbly towards achieving your objectives. It is only by so doing that you can be sure of the fruits of your labour. The success of your investigations is rooted to the clarity of your vision. There is no point in kicking the ball if you do not know where the goal post is.

Self-Assessment Exercise 3.3

List and explain five characteristics of a researcher.

3.4 Classifications of Research

There is no fixed system employed in the classification of research into various types. We may do the classification according to the processes involved in the investigations, types or data needed, the method of data collection, analysis and interpretation of results, objectives of the research or certain other factors. Research may also be categorized on the basis of the discipline being studied. As a result, we can adopt historical research for history, philosophical for philosophy and scientific for sciences. These terms can also be used if we do our classifications in accordance with the methods employed in the research. If the method is historical, analysis of past events, we group it as historical research, if it is scientific or experimental we have scientific or experimental research. A research that adopts a descriptive approach, whose method is to describe situations and events as they appear, can be classified as descriptive research.

Besides, as already hinted above, research can be classified according to the underlying objectives or the use to which the end-result is intended to be put. It is important to emphasize, at this juncture, that the *raison detre* of this course is research in Christian Theology with emphasis on methods. We shall, therefore, centre our discussions on meaning, scope, and methods involved in carrying out research in the areas of Christian Theology. We shall discuss briefly a few of the research types listed above, drawing our examples from different studies applicable to Christian Theology.

1. Basic Research

As already indicated, basic research, also referred to as pure research or fundamental research, is aimed at producing results or findings which will lead to the development of theories or basic principles. Basic research is not concerned with the usefulness of the findings to practical situations but with building theories targeted to the advancement of knowledge in a particular field.

2. Applied Research

Unlike the basic research, applied research is interested in the usefulness of ideas or theories to practical situations. Its main concern is on testing the acceptability of the ideas or theories in environments where they are applicable and not on theory formulation.

Basic research and applied research are dependent on each other. The two types are useful and contribute significantly to the advancement of knowledge in any subject area where they are used.

3. Action Research

Action research is the type of research which is directed towards solving specific problems in a given situation. The emphasis here is not on the development of theories. It is also not on obtaining generalizable knowledge but mainly on developing knowledge – concerning subjects involved in the study. In other words, action research is directly concerned with a problem that exists here and now in a local situation. The findings of the research are to be evaluated in accordance with their local applicability and not universal validity. This means that such findings are not generalizable to other situations.

4. Research and Development

This type of research, simply abbreviated as R and D is relatively new. It is different from most scholarly researches. It is particularly employed in education and used to develop more educational products such as textbooks, curricular or equipment or to test the efficacy of those already developed. A research which is targeted to developing an effective textbook for better teaching of Christian Religious Education in Nigerian primary schools, is under this category.

5. Evaluation Research

Evaluation research is interested in making decisions concerning the worth of a material, method, programme, etc. based on empirical data. In line with Nworgu, 1991, evaluation

research is defined as “a systematic process of collecting pertinent data, on the basis of which decisions could be made about an individual, a programme, materials or methods”. The purpose of this type of research is to provide important information on the operations of a system, with a view to determining its effectiveness.

6. Historical Research

Man uses history to appreciate the past and to understand the present in the light of the past with future anticipations. Historical research deals with the past and may be defined as the application of systematized and objective method to the description and analysis of events, developments and experiences of the past. Historical research is mostly applicable in the field of history. But in recent times, its use has been applied to other disciplines for investigating, recording and interpreting the events of their past for the overall purpose of discovering generalizations that are helpful in understanding the past and present and, to a limited extent, in anticipating the future.

7. Descriptive Research

While the historical research aims at describing and interpreting the past events, the descriptive research describes and interprets the present events. Its focus is on conditions or relationships that exist, practices that prevail, beliefs, point of views or attitudes that are held; practices that are going on, effects that are being felt or trends that are developing. Descriptive research is also known as non-experimental research and as stated above can be classified into: Survey research, correlational studies, case studies, ex-post-facto studies and developmental studies. It involves gathering and tabulation of facts or information as well as interpretation of the meaning or significance of what is described. Besides, descriptive research may be used to identify goals and objectives and the ways through which they may be attained.

8. The Survey Research

This is a type of descriptive research in which a group of people or a group of items is studied through the process of collecting and analysing data from only a few people or few items considered to be a representative of the entire group.

9. Correlational Study

Correlational study, as stated above, is also a type of descriptive research. Its aim is to establish the nature of relationship that exists between two or more variables. The degree of relationship is expressed as a correlation coefficient. Worthy of emphasis here is that correlational study is only interested in indicating whether or not relationship exists. It is not concerned with the causes of such relationship.

10. A Case Study

This is another type of descriptive research. It isolates individuals, groups of individuals, institutions or communities for investigations. In most cases, a case study is generated as a result of problems emanating from the individuals, groups, institutions or communities being studied.

Case studies provide thorough, in-depth, comprehensive, and well-ordered information concerning the social group under-study. As a result, case studies differ from surveys in terms of the degree of intensity and depth of investigation.

11. Ex-Post-Facto Research

Another form of descriptive research is *ex-post-facto research*. Some authors refer to it as *causal-comparative research*. It aims at discovering the factors that are responsible for certain occurrence, outcomes, conditions or types of behaviour by the analysis of past events or already existing conditions. A researcher adopting this kind of descriptive research, usually, has no control over the variables of interest and so cannot manipulate them, since they already exist. It is uneconomical, unethical or practically impossible to manipulate the variables involved. A good example is a study on the influence of gender on students' performance in C.R.K examinations (WASCE or UME) or the effects of location on students' attitudes towards C.R.K. In these examples, the students have already been assigned to appropriate levels of gender (male or female) or location (urban, semi-urban and rural) naturally. The research has no power to manipulate them, to decide who becomes a male or female or who comes from urban, semi-urban or rural locations.

Again, in an ex-post-facto study on the causes of high rate of failure in C.R.K. of WAEC examination, the researcher cannot arrange students to fail the examination in order to study the causes of the failure. Rather he would be interested in the conditions associated with the failure that have already occurred in the past. Such conditions like poor reading habits, unqualified teachers, poor teaching methods, poor classroom conditions, poor reading environment, unavailability of textbooks etc., can form sources of the researcher's data.

12. Experimental Research

This is the most powerful, sophisticated and valid method of research, which can be used to identify confidently the cause of any given effect. The process here involves the manipulation or arrangement of certain variables so as to determine the cause-effect relationship. The main focus of experimental research is to find out what will happen when certain factors or variables are carefully controlled or manipulated. To obtain an answer, the researcher or the experimenter deliberately and systematically manipulates/arranges certain influences or variables and carefully notes or observes how the condition or the behaviour of the subject under experiment is affected or changed. The researcher is usually careful to isolate the variables in such a way that he can be reasonably certain that the effects observed can be attributed to the variables he has manipulated rather than to some other uncontrolled influences.

Self-Assessment Exercise 3.4

List and explain three types of research.

3.5 Points to Consider while Choosing a Research Topic

For successful choice of a researchable topic, you should put the following into consideration:

3.5.1 Your Knowledge of the Topic

Do not choose a topic you know nothing about. It is important that you possess some reasonable knowledge of the topic you intend to choose for your project.

3.5.2 Your Interest

Do not write on any topic that does not arouse your interest. If you do, you can hardly stimulate the interest of another person/your reader. Your research would be successful if you deal with a problem that is of your interest. This is because interest provides undisputable motivation which can sustain your interest until you round off the exercise.

3.5.3 Availability of Material

You must ensure you have sufficient materials that will help you to produce a good work. This demands an extensive use of the library materials and the internet facilities.

3.5.4 Page Limit

Your project should not exceed the acceptable page limit for an undergraduate or Master of Arts' degree studies. Only doctoral degree students are free to produce any number of pages of their work, no restrictions. As a result, if you are not a doctoral candidate, you must choose a topic you would be able to handle effectively within the page limit prescribed for project writing in the Department of Christian Theology of your institution. Usually, it is 45 to 60 pages for undergraduates and 120 to 150 for master's degree candidates. The limit varies according to institutions and their requirements.

3.5.5 Novelty

You must decide on a topic that is novel. It is true that there is hardly any problem that has not been investigated. Extensive reading confirms this fact. But problems that have some resemblance may differ markedly in the circumstances under which they are studied. The differences in circumstances can be in terms of time, place or methods of investigation. In choosing a topic, it is advisable that you do not go about repeating a work already treated by somebody else. There must be something new in your topic before it is considered worthy of investigation.

3.5.6 Contribution to Knowledge

The topic of your choice must make some contribution, no matter how little, to knowledge. A research work in Christian Theology is said to have contributed to knowledge if the findings lead to theory building, improve the "state of the art", add to or fill a gap in the body of literature, solve some knotty problems in the area of Christian Theology.

3.5.7 Time Limit

Ensure you restrict your topic to a manageable context so that, apart from adhering to the page limit, you can conveniently investigate it within the period allotted for project writing. Your bound (completed) project should be ready for submission (through your supervisor) before you start your final degree examinations.

3.5.7 Relationship to your Course of Study

Your topic is related to Christian Theology, if its findings will contribute something new, no matter how small, to the field of the Christian Theology. For instance, a topic which says “The Historical Development of Christianity in Nigeria” is quite researchable. It is also possible that you may be very conversant with it and so it may capture your interest. But a topic such as “The Historical Development of English Language in Anambra State” can hardly be approved for you as a project topic in the Department of Christian Theology even though it may be a hot topic in English Department.

3.5.8 Significance

A good topic for research should be one that will guide the researcher through making a valuable contribution to his field of research.

Self-Assessment Exercise

List five points you will consider while choosing your research topic.

4.0 CONCLUSION

Research is a difficult but interesting challenge. A thorough understanding of research processes equips a researcher with the various processes associated with research. The necessity of mastering research processes is made more important by the fact that the submission of a thoroughly researched work is one of the conditions necessary for the award of any university degree.

5.0 SUMMARY

This unit has exposed you to the meaning of research, characteristics of research, the nature of research in Christian Theology as well as the various classifications of research. You were also shown the qualities that make a good researcher.

6.0 TUTOR-MARKED ASSIGNMENTS

1. What is research?
2. Discuss five characteristics of research.
3. List and explain ten qualities that a good researcher must possess.
4. List and explain five points you will consider while choosing your research topic.

7.0 REFERENCES/FURTHER READING

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UNIT 2: RESEARCH PROCESS IN CHRISTIAN THEOLOGY

1.0 Introduction

2.0 Objectives

3.0 Main Content

3.1 The Scientific Nature of Research in Christian Theology

3.2 Characteristics of Research Methods in Christian Theology

3.3 Research Process in Christian Theology

3.4 Significance of Research in Christian Theology

3.5 Nature of Research Problems in Christian Theology

4.0 Conclusion

5.0 Summary

6.0 Tutor-Marked Assignments

7.0 References/Further Reading

1.0 INTRODUCTION

Advance Research Methods in Christian Theology constitute the general procedures through which we find out solutions to problems that relate themselves Christian Theology. They are, in other words, the sequence of activities followed by a prospective researcher with a view to searching for information, knowledge, solution or answer to an existing problem or felt need in the perspectives Christian Theology.

It is possible that man, in his curiosity to solve ubiquitous problems in his environment, may adopt procedures which may be systematic or unsystematic, controlled or uncontrolled, scientific or non-scientific. But in Christian Theology, as in other academic disciplines, research is carefully organised. It is well-planned. It is systematic. In short, the overall method is science-oriented. This means that research in Christian Theology is scientific. It adopts the scientific process of seeking information or answer to an existing problem.

2. 0 OBJECTIVES

At the end of this unit, you should be able to:

1. explain the nature of research in Christian Theology
2. list the characteristics of research in Christian Theology
3. discuss the proper steps for research in Christian Theology
4. state the relevance of research Christian Theology

3.0 MAIN CONTENT

3.1 The Scientific Nature of Research in Christian Theology

The scientific method of investigation is the most assured process of enquiry devised by man for controlling the flux of things, establishing stable belief and substantiating any claim with empirically verifiable data. In the views of Cohen and Nigel, quoted in Onwubere et al (2008), the scientific method “emphasizes quantification, logical exposition, controlled empirical testing, replicability of findings, and inter-subjectivity. It, therefore, formally rejects the influence of authority precedent, degree of current acceptance and other such influence internal selective facts might have”.

In Christian Theology, as in any other scientific research, *objectivity* is the watch-word. This involves a sequential process and the use is in line with facts discovered through acceptable and reliable procedures. Since research in Christian Theology is a scientific work, it adopts the scientific method. The scientific method of enquiry insists on the discovery of the basic truth. As Onwubere (2008) puts it:

The method does not seek to impose the desires and hopes of man upon the flux of things in a capricious manner. It aims to discover what the facts truly are and the use of the method must be guided by discovered facts.

Self-Assessment Exercise 3.1

Why do you consider research in Christian Theology as a scientific work?

3.2 Characteristics of Research in Christian Theology

In accordance with the general characteristics of research we can generate the characteristics for which research in Christian Theology is known. These include:

1. Systematic

The scientific method of enquiry adopts a systematic approach to problem solving. There is order in the procedure. There is also control in every stage with a view to reducing interference issues that are likely to affect the results of the investigation.

Research in Christian also follows the systematic approach to solving problems. Extraneous variables that are likely to affect the results of findings are also put in check. For instance, in a study to determine the relationship between the use of a particular teaching method and achievements in Christian Theology examinations, efforts are made to control the effects of other variables such as the teaching and learning environment, other teaching methods, age and sex of the learner, etc.

2. Empirical

The criterion of empiricism is concerned with the reality of facts. The scientific method of enquiry is empirical. It involves the collection of data which provides the basis for drawing conclusions. In empirical research, the researcher looks out for data which he can experience and experience with his senses. In most cases, the senses are aided with by some man-made instruments like thermometer, scale, microscope, etc.

The method of research in Christian Theology is also empirical. It is based on observation for purposes of obtaining the empirical evidence. Questionnaire, interview, experiments and so on are empirical tools adopted as research instruments in accordance with the demands of the research topic. Conclusions in Christian Theology research are based solely on concrete evidence adduced from the analysis of data collected by careful observations of the phenomena being investigated and not on personal feelings, beliefs, and religious/ideological biases.

3. Non-ethical

The scientific method of enquiry is non-ethical. This means that it does not judge any specific act as good or bad. It simply offers explanations based on the empirical evidence. This criterion is also evidenced in the method of enquiry adopted in Christian Theology. Empirical evidence is used to explain the findings of the research for purposes of objectivity. Like we have in the scientific research, it does not consider moral issues. Research in Christian Theology does not answer questions on whether a social action is right or wrong, just or unjust, fair or unfair, etc. Instead, it attempts to explain phenomena, behaviour or actions in line with its findings.

4. Problem Oriented

Scientific method is geared towards obtaining the solution to a particular problem. Although the basic type of research is concerned with the development of principles and theories, which are used in the promotion of knowledge in practical situations, it is not a purposeless activity. In the same way, Advance Research Methods in Christian Theology are targeted to problem solving. It is teleological. This means that it focuses on a purpose in the same way as scientific investigations do.

5. Cumulative

Scientific method is cumulative. Principles and theories build upon one another. In other words, new research efforts necessarily develop upon already existing studies, facts, theories and findings and help in refining and extending existing principles. In the course of the research, the intending researcher re-looks/re-examines an event or phenomenon, which other researchers have previously examined. The implication here is that nothing is completely new. There is always in existence some previous research in the same area upon which a new researcher can build.

The cumulative nature of scientific research is also the exact position in Christian Theology. There is no aspect of research today in any area of Christian Theology which is not rooted to the efforts of past researchers. Research in Christian Theology is cumulative.

6. Verifiable

Research in the sciences is verifiable. The process employed by a previous researcher can be repeated by a new researcher with a view to verifying the validity or otherwise of the findings. In Christian Theology research is also verifiable. It is possible for a researcher, in Christian Theology, to collect and analyse data previously used by a previous researcher for purposes of confirming or refuting the recorded results.

7. Generalization

In the scientific method of research, the interpretations of research findings enable the scientist to make generalizations in order to explain the phenomenon that has been researched upon. The main thrust of science is to comprehend phenomena or occurrence. Facts are established based on generalized understanding of relationships between events. Generalization entails the ability to go beyond the specific at hand. It is an important aspect of the scientific method, which is also applicable to the method of enquiry obtainable in Christian Theology. We can, from the result of a study on the relationship between the use of material reinforcers and performance in Christian Theology, generalize that students should be taught Christian Theology with material reinforcers for their successful performance in the classroom or in Christian Theology examinations.

8. Theoretical

Scientific generalizations are developed in the establishment of theories. An idea acquires the status of a theory if it enables us to explain and perhaps make predictions on further occurrences. Research questions and hypotheses are used in scientific research, just as they are used in Christian Theology. In the course of answering research questions or testing the research hypotheses, a researcher establishes facts and determines relationships between variables. If a research hypothesis is tested and proved to be true in reality, it becomes a theory.

9. Tentative

Findings in the scientific research are tentative. Findings in Christian Theology research are also tentative. This means that findings in both areas are provisional, not terminal. There are constant efforts to revise and improve on previous findings. The word *research* as it implies demands the need for repeated search, continuous “re-looking”. We do not hold onto a finding as the ultimate truth. A new researcher may decide to improve upon a theory or upon a previous result by improving the research instruments, etc.

The general summary of the issues raised above is that research in Christian Theology uses the systematic method to probe into the unknown, in order to discover new facts; it is orderly and applies the scientific methodology in its investigations. It therefore meets the

demands of scientific methods of enquiry. It is described as the planned, systematic and scientific process of carrying out investigations in the area of Christian Theology with the intention of finding answers and solutions to existing problems or generating new knowledge in Christian Theology.

Self-Assessment Exercise 3.2

List any five characteristics of research in Christian Theology.

3.3 Research Process in Christian Theology

The following research process is recommended for any researcher who wishes to embark on the business of research. It is also the process that is applicable to research activities in Christian Theology, with little or no modifications in relation to the problem of the study.

3.3.1 Identification and Description of the Problem

In undertaking a research project in Christian Theology, the first step is to identify a problem that is worthy of investigation and, more importantly, a problem whose solution is considered to be useful to the Christian Theology. This problem could emanate from different sources, such as books, previous research reports, personal experiences, etc. At first, the researcher may not be very clear about the problem situation but he possesses strong feelings of unsatisfactory state of affairs, which demands some basic attention. It is this unsatisfactory situation that presents the problem area. Once this position is identified, the researcher focuses their attention on it and tries to sharpen his idea in a declaration or question form, in order to present precisely what the problem is.

3.3.2 Review of Literature

Having identified and stated the problem in a concise and clear term, the next step is the review of related literature. This demands consultation of the library in order to find out what has been written on the problem area. He or she refers to books, journals, magazines, etc., that are likely to have some information, which may be directly or indirectly related to the problem. The essence of the literature review, among other things, is to help the researcher to become aware of the state of knowledge in the problem area. With this awareness, the researcher eliminates the duplication of what has been done. Moreover, the review provides that avenue for useful hypothesis and helpful suggestions for significant investigation.

3.3.3 Formulation of Research Questions and/or Hypothesis

The third stage is the formulation of research questions and/or hypothesis. Normally, in the consideration of the research problem, the researcher reflects on a number of questions in relation to various dimensions of the problem to be solved. He or she formulates these questions and note them down for clarity. These are referred to as research questions. The conduct of the research will be targeted to providing answers to these questions. In most cases, the investigator possesses only some faint idea about what the solution is most likely to be. As a result, they

sharpen their focus on the problem by formulating a hypothesis or hypotheses. There are, however, some studies where the formulation of hypothesis is not necessary. The research questions and hypothesis serve as guides in the conduct of the research. They provide clues to the researcher on where to search for the solution of the problem. Put differently, research questions and hypothesis further clarify the nature of the problem and the logic underlying the investigation. They give direction on the process of gathering the research information.

3.3.4 Designing the Study

The research design constitutes the next stage. It is the stage where the researcher designs a study in order to collect the pertinent empirical data, which will form the basis for answering the research questions and testing the formulated hypotheses. It usually consists of the description of the subjects, the development of the relevant instruments for data collection, and the methods for data analyses. He or she selects the persons or things that will be studied and states how they will be studied. If the research would concentrate on only a part of the population, persons or things to be studied, the researcher will resort to drawing samples; otherwise, there will be no need for sampling and sampling techniques.

3.3.5 Collection of Data

The next stage deals with the actual collection of information which, in research is known as data, from his sample or population as the study demands. Using one or varieties of techniques, the researcher obtains some reasonable data that will enable him to provide answers for the research questions and uphold or discard the hypotheses.

3.3.6 Organization of Data

Having collected the pertinent data, the researcher now settles on the sixth stage where he or she assembles and organizes the data so collected in an acceptable form.

3.3.7 Analysis of Data and Presentation of Results

On the seventh stage, he subjects the data to one form of appropriate statistical analysis or the other in order to obtain from it new information, not previously apparent with non-analysed data; thereby presenting the results of the study. This stage of data analysis is of considerable importance. This is because the data, if not analysed, will, in their pool, make little or no meaning. They are, as Nworgu (1991) puts it: “lifeless and has no meaning *per se*”. It is the analysis to which they are subjected that injects life/meaning into the data.

Whether the meaning is rich or limited is dependent upon how penetrating or superficial the analysis is. The choice of the statistical analysis must be in accord with the research questions and hypotheses, as well as the nature of the data obtained with the research instruments.

3.3.8 Interpretation and Generalization of Results

Having concluded with the data analysis, the next stage involves the interpretation of data. This will be followed by the generalization of results.

3.3.9 Conclusion

At stage nine, the researcher draw their conclusions in line with the major aims and objectives of the research, which in our own case is the solution to a problem in the area of Christian Theology.

3.3.10 Writing the Report

With the conclusions drawn, the researcher settles for the tenth stage, where he writes the proceedings of the research in the form of a report.

3.3.11 Publication

The step in number eleven is the publication stage. This is the final stage of a research process. It involves the submission of the report to a form of publishers, research organizations or government bodies or agencies for purposes of distribution to the learned world and other stakeholders in the field being investigated.

The eleven sequential steps presented above, as research process, should not be seen as the only satisfactory procedure, neither should they be followed rigidly as if mandatory. There is always room for modifications in one way or the other, depending on the desires of the research worker or institution, or the demands of the research topic.

Self-Assessment Exercise 3.3

List the steps involved in the process of research in Christian Theology.

3.4 Significance of Research in Christian Theology

Research by its nature is an essential tool for improvement. Its purpose is to investigate an area of scholarship and record the results of the said investigation carefully and systematically in a written form, for references and appropriate usage. Research, undoubtedly, is an important method of gathering valid and reliable knowledge needed for significant changes, particularly where there is need to discard some old practices. In the absence of research, it is possible to discard the old practices in favour of inferior novel practices.

In the study of Christian Theology, the significance of research cannot be over-estimated. It is essential for the overall development of the students, the lecturer and administrators in the area of Christian Theology. The following constitute, *interalia*, the benefits of research in the study of Christian Theology.

1. Research stands as a *sine-qua-non* for making reasonable decisions for successful achievements in Christian Theology.

2. Research in the area of Christian Theology establishes the basis for significant increase in knowledge making and knowledge dissemination. The researcher in this area is usually pre-occupied with finding solutions to existing problems in Christian Theology. At the end of the study, the results/solutions realized form additional knowledge in the area. The researcher is well acquainted with the new knowledge having been exposed to varieties of information on the issue investigated as well as on the views/contributions of the respondents and other researchers in a similar/related area. The readers, on their own, become aware of the new knowledge and use it in accordance with their individual purposes, making progress as necessary.
3. Research in Christian Theology can be used to examine the validity of propositions and practices obtainable in the area.
4. Through research in Christian Theology, new books, chapters in books and articles in journals have been written for libraries and for use by individual readers either for pleasure or for other numerous purposes.
5. Research provides valid and reliable information needed by priests, pastors, evangelists and teachers of Christian Theology for appropriate planning.
6. Research in Christian Theology, as in any other discipline, involves active learning and, as a result, its activities expose the intending researcher to many innovative areas in the use of library, procedures for data collection and analysis as well as in the acceptable documentation format, mechanics of research and the importance of critical/logical reasoning.
7. Procedures employed in research activities in Christian Theology go a long way in educating the researcher on effective methods of organization, analysis and lucid-imagination. By so doing, he gains some reasonable knowledge on the subject area and disseminates this knowledge to the reader in coherent articulation. Levels of knowledge obtainable today in Christian Theology are all related to the totality of investigations carried out in the area.

For whatever purpose research is initiated, the procedure for the investigation is of paramount importance. The researcher is expected to take extreme care of his findings and the way he records them mainly because these are taken into consideration in the course of evaluating the final product. It is not enough to conclude any part of work based on personal knowledge only. The investigator must carry out the investigation using pertinent, relevant and related sources, with a view to discovering some new information.

The findings of the investigation should not be a massive pool of the ideas of other people but a meticulous and coherent construction which presents original options gathered from a multitude of sources for any form of clarification and verification. Nwabueze (2009) sums the matter superbly:

A good research should have its own problem to investigate, organize information in such a way that the reader has a new insight into the subject of investigation, and presents its own unique conclusion. (p.8)

Self-Assessment Exercise 3.4

Give five reasons why you consider research in Christian Theology a significant undertaking

3.5 Nature of Research Problems in Christian Theology

We can now proffer answers to the questions: What constitutes a problem situation in Christian Theology? Is every work or assignment a problem in Christian Theology?

Ideally, not every work or assignment can be accepted as a research problem in Christian Theology. This is because not all problems are viable as research topics; not all problems are researchable. A viable research topic in Christian Theology is one that is amenable to investigation. This implies that it is possible to gather relevant data necessary for testing the theory or finding an answer to the question under investigation. Research problems in Christian Theology can be one, or at least related to any one, of the following:

3.5.1 An Unsatisfactory State of Affairs

Any unsatisfactory state of affairs in Christian Theology can constitute a problem. Such an unsatisfactory state occurs whenever positions of things are not what they ought to be. In this case the situation is so disturbing that there is ardent need to have it rectified. The disturbing situation constitutes a problem that should be solved. An example is the recurrent poor performance of students in C.R.K. during examinations. Identifying what the cause of this unsatisfactory state of affairs is and its remedies can constitute a problem of study in Christian Theology.

3.5.2 Unanswered Question

A problem in Christian Theology can also take the form of an unanswered question. There are multiplicities of unanswered questions in Christian Theology. These questions, which demand answers, are problems in themselves. Instances of unanswered questions are: Why do we have more male than female lecturers in the Department of Christian Theology in Nigerian institutions?

3.5.3 Unsatisfied Need

Research problems in Christian Theology can also take the form of a need. A need which is yet to be satisfied is a problem demanding solution. For instance, establishment of open and distant learning institution in Nigeria brought the need for standard electronic facilities, eBooks inclusive, dearth of standard electronic books in Christian Theology is a need, a problem demanding solution.

3.5.4 Imbalance

An imbalance in any system is a problem inherent in that system. The presence of such an imbalance position is a distressing condition preventing effective functioning of the system. Solving the problem of imbalance creates a balanced situation for successful activities of the system. There may be cases of imbalance in Christian Theology. For instance introducing students to standard literary works, standard library, without such introduction in our public schools leads to an imbalance which creates a problem not only in the education system but in the society at large.

Self-Assessment Exercise 3.5

List five items that may constitute research problems in Christian Theology

4.0 CONCLUSION

Research in Christian Theology is a systematic and objective search for new knowledge. It is conducted using the scientific method. Investigations in Christian Theology and scientific studies adopt similar characteristics, namely: systematic approach, objectivity, empiricism, ethical, problem oriented, cumulative, verifiable, and generalization, etc.

5.0 SUMMARY

In this unit, you have been exposed to the nitty-gritty of research in Christian Theology. You have mastered the research processes as well as the characteristics of research in Christian Theology. You have also studied why research is of relevance in Christian Theology.

6.0 TUTOR-MARKED ASSIGNMENTS

1. Discuss seven characteristics of research in Christian Theology.
2. In which four ways is research relevant in Christian Theology?
3. Why do you consider research in Christian Theology as a scientific work?
4. Detail the steps to research in Christian Theology.

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UNIT 3: RESEARCH PROPOSALS

1.0 Introduction

2.0 Objectives

3.0 Main Content

3.1 Meaning of Research Proposal

3.2 Types of Research Proposal

3.2.1 Thesis Proposal

3.2.2 Grant Proposal

3.3 Contents of a Research Proposal

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3.3.2 Researcher's Technical Qualifications

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3.3.4 Work Plan

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3.4.1 Track Record

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3.4.4 Clarity

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4.0 Summary

5.0 Tutor-Marked Assignment

6.0 References/Further Reading

1.0 INTRODUCTION

Writing a proposal is a very important segment in research activity. Let us liken it to a roadmap which a researcher draws for himself to enable him navigate the rough and yet interesting field of research. You should do well to consider your research as an adventurous journey. In this journey, your supervisor or sponsors of your research need to be convinced that you know the road to your destination, and that you will not miss your way in the midst of uncertainties and difficulties that you may encounter on the way. The proposal does the job of convincing them that you understand what your topic is all about. It also guides you, just like the map guides a traveller, all the way to the end of your research. Thus, it pays you, in no small measure, to acquaint yourself with the rudiments of writing research proposal which we shall introduce to you in this unit.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- define research proposal
- state types of research proposal
- draft different types of research proposal

- list the likely questions to search for before writing a proposal for research grant

3.0 Main Content

3.1 Meaning of Research Proposal

Research proposal is a comprehensive summary of what a researcher intends to achieve in his research work. According to Matt Henn *et al* (2006),

A research proposal, then, is a written plan for a study. It spells out in detail what the researcher intends to do. It permits others to learn about the intended research, and to offer suggestions for improving the study. It helps the researcher to clarify what needs to be done, and aims to avoid unintentional pitfalls or unknown problems (257).

A good proposal does not stop at what should be achieved. It also shows how and when the researcher hopes to achieve what he is proposing. Hence, we can say that a research proposal is fashioned to answer the ‘what’, the ‘how’ and the ‘when’ questions of research.

The research proposal is so relevant that supervisors and sponsors rate very highly the “researchability” of a topic and the ability of the researcher to carry out a particular research from the proposal submitted for the research. Apart from providing the early ground of rating the researcher’s ability, the research proposal serves as an organized plan of action for the researcher to follow. From time to time, a good researcher returns to his or her proposal to check whether what he or she is doing is still in tandem with what he proposed in the beginning of his research. At this level of your academic career, you must have noticed that books and experiments can become very interesting that they lure a researcher away from his intended aim. Whenever this happens, seasoned researchers take recourse in the research proposal which they had prepared earlier in order to retrace their steps. What this tells you is that even when you are doing a private research, or when your supervisor or sponsor has not asked for a research proposal, you do yourself a world of good to prepare one for your own use.

Besides the above, a good research proposal helps you, the researcher, to have a proper foresight on what is involved in executing a particular study. With proper research proposal, you can visualize, ahead of time, the major difficulties that may mar the research and find ways of curbing them.

Self-Assessment Exercise 3.1

Demonstrate your understanding of the term, research proposal

3.2 Types of Research Proposal

Research proposal can be categorized into two. They include: Thesis Proposal and Grant Proposal.

3.2.1 Thesis Proposal

Thesis proposal is the type of research proposal written by students in the course of writing their long essays. It is part of today's tradition that a student writes and submits a long essay to his or her department before he or she graduates from any institution of higher learning. In Nigeria, this long essay is called *project* if written for the purposes of N.C.E., Bachelor's degree, and Diploma. If it is written for the purpose of master's degree it is called thesis, and dissertation if written for a doctorate degree. However, especially in postgraduate studies, before a student is permitted to write his long essay, he is expected to submit his thesis proposal to his Department.

In the thesis proposal, the student provides a detailed roadmap about the research he intends to carry out. At this level, the student's supervisor is expected to judge the feasibility or otherwise of the student's title solely on the strength of their proposal. Looking at a student's thesis proposal, their supervisors will be able to determine:

- (a) the theoretical framework on which the student's work is based
- (b) the contribution the student's research will make to scholarship
- (c) whether there is sufficient literature to support the student's research efforts
- (d) whether the methods of data collection and analysis adopted by the student are suitable for the research

A well written thesis proposal should clearly address the above points. You have no reason carrying on with a particular research if you cannot prove, in your thesis proposal, that your research will address the points. This demands that a student should put in all their best in crafting their thesis proposal in order to convince their supervisors that they know what they aim at. Patience and diligence are too important virtues which expert researchers advice that you adopt in order to write a good thesis proposal.

3.2.2 Grant Proposal

Grant proposal is a proposal written to statutory, voluntary or philanthropic agencies by a researcher requesting for funds to enable him or her carry out a specific research. Traditionally, the following are some of the reputed agencies that sponsor research by awarding grants to researchers: The Education Trust Fund (ETF), Rockefeller Foundation, Carnegie Corporation, Ford Foundation, Hewlett Packard Foundation, the Robert Wood Johnson Foundation, United Nations Research Institute for Social Development (UNRISD), etc. You must have proved yourself as expert proposal writer before you write grant proposal to any of these research agencies. The only way to become an expert proposal writer is to take the writing of your thesis proposal very seriously as a student.

Indeed, grant proposal is a battlefield for expert researchers. Here, the competition is tough and the grant money at stake is often quite large. Since there are many scholars who compete for the grant money of the sponsoring agencies, the agencies make sure that they fund only the best proposal which shows the greatest potential for success. That you are sure, in your head, that your work carries great potential is quite irrelevant here. What is relevant is your ability to convince the grant agencies that your research has potential.

Self-Assessment Exercise 3.2

Differentiate between thesis proposal and grant proposal

3.3 Contents of a Research Proposal

A research proposal, whether thesis or grant proposal, must possess certain things to be considered a good proposal by assessors. Matt Henn *et al* (2006: 250) lists the traditional contents of research proposal to include: (1) research objectives and scholarly significance; (2) researcher's technical qualifications; and (3) the level of funding required (4) work plan.

3.3.1 Research Objectives and Scholarly Significance

Here, the proposal exposes the issue or issues which he wants to examine. The researcher discusses what he or she intends to achieve in his or her research. He or she also informs his or her assessors the methodology he will adopt in order to arrive at the conclusion of his research. It is not just enough to list these, that is issues and methodology, without justifying them. A good proposal should be able to tell his reviewers why the issue he is considering and the method he has adopted to pursue the issue are chosen despite the presence of other myriads of issues and methods. He needs to harp on the significance, purpose, relevance or importance of his research.

Every research must address a problem. Thus, assessors will look at your proposal to identify the problems you seek to address in your research work. Other items which must be contained in a good proposal are hypotheses, definition of terms, and target group of your research. You should also state the research design, instrument, and methods of data analysis to be adopted. Also important in a research proposal is the review of literature relevant for the study. This gives you the opportunity to link your work with previous researches. It also helps you to identify a gap which you want to fill in your research. After writing the literature review, you have to list books and other reference materials that are useful to your research.

A careful examination of what we have discussed above reveals that what are needed to show the objective and significance of your research are the traditional items that are contained in chapter one (background of study, purpose of study, scope of study, statement of problem, significance of study, methodology, definition of terms, sample design, hypothesis) as well as chapter two (literature review), and bibliography of any long essay are needed to show the significance and objective of your research.

3.3.2 Researcher's Technical Qualifications

A research proposal must also state the qualification of the researcher. In thesis proposal, this is stated in the title page of the research where the researcher states that he is either pursuing a bachelor's degree, a master's degree or a doctorate degree. This is the much that is required from thesis proposal.

However, technical qualifications become more serious when the researcher is involved with grant proposal. Here, the researcher is often expected to attach a full dossier of his curriculum

vitae to the grant proposal. The grant agencies need to be convinced that the researcher has the requisite experience to undertake a research work in the field he is applying for.

3.3.3 The Level of Funding Required

A research proposal, especially grant proposal, is expected to contain information concerning the resources needed to undertake a research. What this entails is that the researcher should carry out a market survey of items that are needed for his research, fees to be paid to research assistants and others. The researcher should be careful to state the exact amount so that his research will not be constrained by lack of resources. He should also be careful not to overstate the money he needs for the research.

3.3.4 Work Plan

A research proposal should contain a work plan which contains the time table of what the researcher plans to do, and when they will do it. The work plan details aspects of the research that will be completed at every point in time. In thesis proposal, your supervisor may not request for your work plan, but you should have a work plan of your own to help you complete your research in a record time. On the other hand, the work plan is an indispensable part of a grant proposal. Research sponsors need to convince themselves that you have a plan to complete the research in record time. In most research proposals, the work plan is prepared in a table format where each activity is paired against a specified time.

Self-Assessment Exercise 3.3

List and discuss the four contents of a research proposal

3.4 Key Criteria for Assessing a Research Proposal

When reviewers assess your research proposal, whether thesis proposal or grant proposal, they will award you marks based on the following: track record, originality, feasibility, clarity, and outputs.

3.4.1 Track Record

The reviewers always consider the antecedents of researchers in assessing their research proposals. This is where your technical qualifications, which you submitted earlier, play a major role. There is no gain saying that researchers who have proved themselves in the past as capable of sustaining and ending a research work successfully are favoured more than new ones. For instance, if you are applying for a doctorate degree with your research proposal, the supervisors know that you already have a record of completing a successful research at your undergraduate and master's degree levels. Consider their reaction to one who has not got any experience at these levels. Things are more serious when the proposal is for grant. Researchers who have completed research for other agencies are favoured more than those who have not. This should not discourage a first time grant proposal writer. In one way or the other, they have proved that they can carry and sustain a research if they already have a PhD. Besides, they should know that

this is not the only criterion of assessment. They should concentrate on other criteria as if their life depends on them.

3.4.2 Originality

Assessors of research proposal always look out for the contribution a particular research will make to knowledge. A researcher should be able to prove that his research does not re-invent knowledge. They should convince their assessors that nobody, before them, had arrived at the same conclusion they propose to arrive at. This tells you that you do not just generate a topic for research. You should be able to prove that your topic has worth, and that so far, you alone hold (a private and mental) patent to the idea that your topic intends to address. When reviewers read the chapters one and two of your proposal, they will be able to decide whether your research is original to you or whether you are re-inventing the wheel (Re-inventing the wheel is euphemism for researching a topic already researched by others.).

3.4.3 Feasibility

A research that proposes to bring down the sky for us to touch and feel is original in all its ramifications. However, the assessors are likely to conclude that what the research proposes is an impossible task, and therefore throw it out even if the researcher has impeccable track records. The reviewers will also look at your time table, fund demanded, and what you propose to do within the research period to take decision on the feasibility of your proposal. If they are convinced that what you are proposing can be achieved within your stipulated time and fund, they will consider your proposal as feasible. Finally, in planning for research, seek to address what can be achieved over a record time and with moderate budget.

3.4.4 Clarity

What is under examination here is your skill as a researcher. The assessors want to convince themselves that you know your topic very well, and that you understand the question you have proposed to tackle. No researcher worth his salt is expected to fail in this area, so it is often allotted low marks, but its importance is that once you are able to prove that you lack a researcher's skill the assessors feel that there is no need continuing your assessment. So to avoid such conclusion being reached about your research proposal you should be clear-headed on what you want to achieve with your research. Besides this, you should be very forceful in expressing your points.

3.4.5 Outputs

The reviewers of research proposal are interested in the benefits your research is to give to society. You must be very explicit in stating this.

Self-Assessment Exercise 3.4

Discuss clarity, feasibility and track record as criteria for assessing a research proposal.

4.0 CONCLUSION

A researcher who wants to make progress in his research should learn the art of writing proposal. The feasibility as well as the relevance of a research is judged by the research proposal which a researcher puts forward for consideration. A wise student considers the proposal as very essential for the success of his research.

5.0 SUMMARY

This Unit has x-rayed research proposal in its entirety. It looks at thesis proposal which advanced students must submit to the university before embarking on the main research. It also explores research grant proposal which grant seekers must present to corporate bodies before their request could be considered. It exposes the contents of a good research proposal, telling the researcher what the assessors look out for in any research proposal.

6.0 TUTOR- MARKED ASSIGNMENT

1. What do you understand by the term Research Proposal?
2. Discuss the two types of research proposal.
3. Discuss the contents of a research proposal.
4. Show your understanding of the criteria for judging research proposal.

7.0 Reference/Further Reading

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UNIT 4 RESEARCH QUESTIONS AND HYPOTHESIS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Research Questions
 - 3.2 Characteristics of a Good Research Question
 - 3.3 Hypotheses
 - 3.4 Functions of Hypothesis in Research
 - 3.5 Sources of Hypotheses
 - 3.6 Tips for Formulating Hypotheses
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 Reference/Further Reading

1.0 INTRODUCTION

Research is an activity that aims at finding a solution to an identified problem. Human beings are confronted with varying problems, and through research activity, solutions to these problems are provided. Any identified problem, formal or informal, facing human beings requires efforts to provide solution. For instance, a mother whose child never does well in school is faced with a problem. She immediately suspects some possible causes of the problem. Such causes might be that the child spends most of his time playing games instead of studying, or that the child plays truancy during school hours, or that there is need for her to hire his teacher to augment the classroom teaching in order to boost the child's interest in academic work. She then begins to explore these intelligent guesses to find out possible ways to make her child improve academically. When she eventually identifies the cause of the child's inability to pass examinations, she takes drastic steps to rectify the situation.

In research, the situation is not different. A researcher, confronted with a problem, first takes an informed guess of possible solutions to the problem and then, sets out to produce evidence to confirm or refute these possible solutions. These conjectured possible solutions are usually expressed as either research questions or hypotheses (Nworgu, 1991).

2.0 OBJECTIVES

At the end of this unit, you should be able to:

1. understand the meaning of research questions
2. know the meaning of hypothesis
3. explain the functions of hypothesis in a research work.

3.0 MAIN CONTENT

3.1 Research Questions

Research questions are questions posed by the researcher in the course of trying to solve, or proffer solutions to, an identified problem. Answers to the research questions would lead to the possible solution of the problem. Research questions usually break down the research problem into specifics. They convert the problems into questions in such a way that they are verifiable. In fact, the statement of research problem in a question form is regarded as the research question (Akuezilo, 1993). For instance, if a researcher is researching into problems in the implementation of computer science education in post primary schools in Lagos State, the following research questions could be formulated:

1. Are there available computers for effective teaching of computer science in post primary schools in Lagos State?
2. Are there qualified teachers for the implementation of computer science curriculum?
3. To what extent are the necessary resource materials for the implementation of the subject available?
4. Is the supervision of the implementation of the subject curriculum adequate?

Such questions as these should be considered when framing research questions for the researcher to find out the causes and solutions of the research question.

Self-Assessment Exercise 3.1

What is research question?

3.2 Characteristics of a Good Research Question

A good research question possesses the following characteristics:

3.2.1 Provision of a Road Map

A good research question provides a roadmap and directs attention to the major issues in the project. They pilot what data to be collected and where to collect them. For research questions to serve their purposes, they should always be related to the problem under study and represent important issues in the study.

3.2.2 Covering Essential Issues of the Research

Research questions should cover all the major issues of the research under study. Though there is no specific rule on the number of research questions to be formulated, the number should not be so small as to exclude very important aspects of the problem or so large as to result in an unmanageable list of research questions.

3.2.3 Simple and Unambiguous Language

The language of the research questions should be simple and unambiguous. Research questions should be framed in such a way that the feedback of any question should provide a deep insight to the research problem.

Self-Assessment Exercise 3.2

List and explain three characteristics of a good research question

3.3 Hypotheses

A hypothesis is a tentative answer to a research question. It is an intelligent or educated guess of an answer to the problem of the research under investigation. It is, however, an answer which has no evidence supporting it until a full investigation is carried out (Akuezuilo, 1991: 32). This, in other words, implies that a research hypothesis is an opinion statement.

Nworgu (1991: 44) defines a hypothesis as “a conjectural proposition, an informed, intelligent guess about the solution to a problem. It is an assumption or proposition whose veracity and validity is to be established”. According to him, a hypothesis provides the researcher with the necessary guide or direction in searching for the solution to the problem under investigation. This ensures that the researcher does not waste or dissipate all his energy in searching for solutions anywhere and anyhow.

Ali (1996: 27), on his own, sees hypothesis as “a statement giving an insight of what the researcher expects to be the outcome of his study with regard to the variables contained and investigated in the statement of problem.” The statement of the hypothesis is in itself an explanation for certain observed or observable events, behaviour, phenomena or predictions, with regard to how they occur, why they occur or when they occur. Because expectations and explanations must be clear, succinct, testable and verifiable, they must be specific enough for these to be possible. But even when these have been achieved, the hypothesis should not be seen as a proof. It is merely evidence for supporting or rejecting one’s preconceived views, now presented as a statement which is tested and found acceptable or non-acceptable as was stated. The aim of hypothesis is not to prove anything but to test whether it should be accepted or rejected and this is done with data painstakingly collected through research.

It is important to note that formulation and testing of hypothesis are essential steps in any research. They should be formulated in a way that all aspects of the research problems will be considered and explored. If the hypothesis is not comprehensively formulated, important aspects of the research area may be neglected. Therefore, the researcher should endeavour to formulate a set of hypotheses comprehensive enough to cover all aspects of the problem.

Self-Assessment exercise 3.3

What is research hypothesis?

3.4 Functions of Hypothesis in Research

Hypothesis, as already stated, is an essential part of a research activity. The following constitute the functions of a hypothesis in a given research:

- The use of hypothesis in research helps the researcher to concentrate attention on the research problem and determine the direction in which the solution to the problem can be found.
- Hypothesis formulation aids the researcher in delimiting the direction of searching for evidence and thereby concentrating on the search rather than searching for evidence everywhere and anyhow. This ensures that only relevant data are collected and energy is not wasted or dissipated unnecessarily.
- The use of hypothesis sensitizes and draws the attention of the researcher to the important aspects of the problem under investigation.
- Hypothesis helps the researcher to understand the problem under study better. It also provides insight into the methods and procedures that will be appropriate in the analysis of the data.
- It provides the researcher with the adequate framework to draw conclusions and proffer meaningful solutions to the identified problem(s) under study. It also provides the necessary structure for meaningful interpretation of data in relation to the problem under investigation.

Self-Assessment exercise 3.4

Establish the basis for the use of a hypothesis in a research work

3.5 Sources of a Hypothesis

This involves factors that aid the researcher in the formulation of a hypothesis. The following are sources that help in the formulation of a hypothesis:

- 1. Experience:** This entails the researcher's previous knowledge/experience as a being in his environment. Experience develops as a result of one's interaction with people and observations of the happenings in his environment. Experience of life helps the researcher in the formulation of his research hypothesis.
- 2. Previous Findings:** All research activities take off from previous or existing knowledge. Findings of previous studies on a related area serve as a source of hypotheses. Such findings may give rise to some new issues, which have to be resolved. These issues will then form the basis for formulating pertinent hypothesis. In addition, hypotheses could be derived from deductions made from the findings of previous studies (Nworgu: 1991).
- 3. Literature:** This entails published and unpublished materials consulted in the course of research activity. From the review of literature, the researcher can generate worthwhile hypotheses or modify and enrich those hypotheses he has already formulated.
- 4. Theory:** This is another major source of hypothesis. We can, from theories, generate hypotheses, particularly through a process known as deductive reasoning.

Self-Assessment Exercise 3.5

Demonstrate your understanding of the four sources of hypothesis.

3.6 Tips for Formulating Hypotheses

As a student of this course, having explored the meaning of hypothesis, its sources and various forms, you may wish to formulate your own hypotheses. There are principles that guide the formulation of hypotheses, which will help you in your research activities. The following are some of the basic principles in the formulation of hypotheses.

3.6.1 Relationship with the Problem

The first point to consider in the formulation of hypotheses is its relatedness to the research problem. The researcher will do well to understand the research problem in order to formulate appropriate hypotheses that are in relation to the identified problem.

3.6.2 Unambiguity

Hypothesis should be stated in simple and unambiguous terms: In other words, the use of ambiguous words or concepts should be avoided. One dimension of simplicity is the number of concepts or relationship among concepts that are built into a hypothesis. When so many concepts are woven into a hypothesis, it becomes complex and difficult to follow. A complex or ambiguous hypothesis presents more difficulties than a simple one at the level of obtaining information.

3.6.3 Verifiability of Claims

It should be stated in such a way that it can be tested and found to be probably true or probably false. One of the criteria guiding the formulation of hypotheses is that they should be verifiable. This means that it should be possible to establish whether or not the claims of a hypothesis can be demonstrated to be so with the use of available resources. If the claims of a hypothesis cannot be verified, then it does not provide the basis for action, since verification implies and involves action.

3.6.4 Consistency with Current Knowledge

It should be consistent with known facts or theories. This means that it should not contradict established principles and laws. This is important because any contradiction would make one's position to appear senseless.

3.5.1 Plausibility

In formulating a hypothesis, only reasonable, intelligent and informed guesses can be considered. It must be noted that not all guesses or feelings of a researcher qualifies to be included as a hypothesis. A wild guess, pulled out from nowhere, even though it may relate to the problem may not qualify as an appropriate hypothesis. Therefore, in formulating hypothesis, the researcher should not contradict reason and must not allow his imagination to go wild.

Self-Assessment Exercise 3.6

Discuss three tips you are to consider while formulating a hypothesis

4.0 CONCLUSION

Well-written research questions and hypotheses serve as torchlight to a researcher in the process of carrying out his research. They provide the planks upon which ideas will be measured and tested. A researcher who fails to put up good questions and hypothesis always finds himself lost in the middle of a research. Therefore, given the important use of research questions and hypothesis, a student researcher should learn how to draw them up and make good use of them.

4.0 SUMMARY

We have, in this unit, handled two important steps in a research work. You have learnt the meaning of research questions, and research hypotheses. You have also learnt the characteristics of a good research question as well as the functions of a hypothesis in a research work. The unit has also exposed you to tips that will guide you in your formulation of hypotheses.

5.0 TUTOR-MARKED ASSIGNMENT

1. Define the following terms:
 - (a) Research questions
 - (b) Research hypothesis
2. Why do you consider the use of hypothesis relevant in a research work?
3. Differentiate between a research question and a hypothesis

6.0 REFERENCE/FURTHER READING

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UNIT 5: RESEARCH REPORT

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Meaning of Research Report
 - 3.2 Types of Research report
 - 3.2.1 Written Research Report
 - 3.2.2 Oral Research Report
 - 3.3 Importance of Research Report
 - 3.4 Contents of Research Report
 - 3.4.1 Preliminary Pages
 - 3.4.2 Main Body
 - 3.4.3 References
 - 3.5 Causes of Failure in Research Report
 - 3.5.1 Lack of Logical Structure
 - 3.5.2 Undeveloped Ideas
 - 3.5.3 Lack of Organization
 - 3.5.4 Grammatical and Spelling Mistakes
 - 3.5.5 Plagiarism
 - 3.5.6 Repetition/ Irrelevant Information
 - 3.5.7 Weak Conclusion
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 Reference:/Further Reading

1.0 INTRODUCTION

Every research is meant for the public. This means that researches are meant to be communicated to a third party. The researcher must bear this in mind as he begins his study. He is to remember that he should present his research to other people. If he remembers this, he must devise a plan to note down whatever he observes during the research in order to present same at the end of his research. A research report is what is presented at the end of the research process but it is a process, that runs throughout the intervals of the investigation.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- i. state the import of report.
- ii. list the important parts of a research report.
- iii. explain each of the important parts of a research report.
- iv. write a report using a research topic.

3.0 MAIN CONTENT

3.1 Meaning of a Research Report

A research report is a result of research findings. It is a very essential part of the research process. The import of the report is to communicate to others the experiences which you, the investigator, has passed through during the study. As a researcher, you should, at the end of the study make sure that the report is well-presented. A research report brings a research process to an end, and it is what a researcher will present to his supervisors or sponsors.

Before he writes down the findings of his research, a researcher should first of all assemble together all the available information he had stored up as his research was unfolding. He takes time to sieve the relevant from the irrelevant, and takes time to put down the relevant information in the best language that is within his reach. A good report takes several trials and efforts to be produced. This requires that the researcher, while compiling his report, should be patient enough to read through his drafts, make as many changes or corrections to the drafts until he is finally satisfied that he can do no better.

Self-Assessment Exercise 3.1

What is a research report?

3.2 Types of Research Report

We distinguish between two types of research report. They include: written research report and oral research report.

3.2.1 Written Research Report

A written research report is one that is presented in a written form. Here, the researcher compiles all he has done throughout the period of his research and produces it in form of a book which he passes over to relevant bodies. There are three bodies to whom a research report can be submitted. They include: the universities, journal editors, sponsoring agencies.

Universities: Research reports that are submitted to universities are often in the form of student projects, theses or dissertations. Indeed, all universities in the world require their students to submit written research reports at the end of their undergraduate and postgraduate studies. These reports are stocked in the university libraries as reference materials for future researchers. Each university has specific instructions on how to write the research report. So a good student should discover what these instructions are in his university before writing his research report. He must adhere strictly to every instruction, as expected. One of the ways to discover this is to request, from your university library, copies of previously written reports and examine them thoroughly.

Journal Editors: A research report written by more established or non-student researchers are presented in a journal. A research report which is presented in a journal often targets a wider audience. There are about hundreds of thousands of journals that are published annually which

report major research findings. Getting published in a journal is quite competitive and a researcher must be at his best to be able to produce an article that is publishable in a journal. An undergraduate may not be required to publish in a journal, but a postgraduate student must know that he is expected to publish articles in reputable journals.

Research reports meant for a journal undergo what is called peer review where the quality of each research report is judged by external persons unknown to the author. The peer reviewers must certify that a report has substance, is original, and has a contribution to make to knowledge before it is published. A researcher who wants to increase the acceptability of his research report in a journal should ensure that his report meets the following criteria:

1. his topic must be both topical and original
2. his report is sent to the right journal which has interest in the type of topic he has researched on
3. ensure that his report conforms to set-down rules and regulations that govern submission in the target journal
4. make sure that the report is well written in clear and sharp language
5. receive a critique of the report from a friend or colleague, and try to respond to his comments before sending out the report (always bear in mind that research is more of a collaborative endeavour)
6. ensure that your sources are well cited.

Sponsoring Agencies: Researchers are used to receiving uncountable requests from companies, governments, and other types of organisations to research a topic of interest for them. A researcher engaged in this type of research is often paid huge sum of money by the agencies that need his services. At the end of the research, the researcher puts up a written report which he submits to the agency that hired him. This type of research report is often called technical report, and most times its used, publication and circulation lie at the discretion of the agency that sponsored the report.

3.2.2 Oral Research Report

Oral research report involves making a verbal presentation of one's research findings. There are researches that demand that a researcher presents the report of his research orally to an audience: teachers, friends, classmates, conference attendees, etc. At other times, it is demanded that oral presentation accompanies a written research. Whichever is the case, a researcher should learn the rudiments of oral presentation of research reports. In the present age of Information and Communication Technology (ICT), most oral reports are often made with power points, a Microsoft programme that offers audio and visual alternatives to your presentation.

To make the best out of your oral report presentation, you should do the following:

1. be early to the presentation venue. This affords you the opportunity to make sure that the whole place is as you would like it.
2. come with aide memoirs, either on cards, paper, OHP transparencies, etc., that will help you to recollect vital points.

3. make sure that your voice is at its best. Use gestures and eyes contacts to relate with your audience
4. address every question put to you as best as you can.

Self-Assessment Exercise 3.2

Discuss the two types of research report in detail

3.3 Importance of Research Report

The research report is very important because of the following reasons:

3.3.1 It Enhances Criticism and Verification

The ultimate aim of reporting one's research is to publicise one's findings. Once findings are publicised, other researchers have access to them. This gives them the opportunity to ask their own questions about the claims made by the research reporter. Criticizing a research report will help to strengthen the research. Asking questions may also involve going through the same procedure as the research reporter to know whether one would arrive at the same conclusion like him.

3.3.2 Public Adoption

Researches are meant to benefit the public. The only way the public will benefit from the report is when it comes to know about the report and adopts it for practical use.

3.3.3 Provides Avenue for Further Research

Research findings excite the imagination and spur other researchers into considering other aspects of the same issue. Without knowing it, a researcher often leaves openings to other researchers to exploit in their research. These openings can only be pursued if findings are made public to interesting researchers.

3.3.4 Guide to Future Researchers

Research report helps future researchers to know what has been done in a field and what remains to be done. If reports remain unpublished, researchers will always re-invent the wheel thinking they are engaged in original research work.

Self-Assessment Exercise 3.3

List and explain four reasons why research report is important

3.4 Contents of a Research Report

There are three parts to every research report. They include: (a) preliminaries, (2) main body, and (3) references.

3.4.1 The Preliminary Pages

The preliminaries are the first part of a research report. Most universities have laid down rules and specifications for writing the preliminaries. A student researcher should do well to follow the instruction given by his university in preparing the preliminary pages of his research report. For the most part, the preliminary pages of research contain the following information: title page, dedication (if any), acknowledgements, table of contents, list of tables (if any), and list of figures (if any), abstract. As a rule, the titles of all the items that fall under the preliminaries are written in capital letters.

The Title Page: The title page of a research report is usually the first page of a research report. It is usually made up of the following information: title of thesis, name of the candidate, purpose of the research report, university, and/or department which the researcher is affiliated to, name of the university or organization to which it is submitted, month and year of submission or acceptance. Every item in the title page is written in capital letters as they convey important information about the researcher as well as the research report.

Dedication (if any): Dedication appears on a separate page of the research report. Here the researcher gives the name of the person to whom he dedicates his research. The dedication is optional. However, some universities demand that their students include it.

Acknowledgements: This is the third or second item in a research report depending on whether the dedication is included or not. On this page, the researcher acknowledges all the help and assistance he received in the course of the research. A student research report is likely to acknowledge his supervisor, lecturers, mates, family members and friends.

Table of Contents: The table of contents contains all the main headings and important sub-headings of a research report in the order in which they appear in the work. The page in which every item in the table of contents appears should be marked against that item or sub-item.

List of Tables: Some researches do not have tables. In that case, the researcher should not have provision for list of table in his research. However, a report that contains table should have a separate page where names of the tables are listed against the page where they appear in the work.

List of Figures: This is a page that details all the illustrations, graphs and drawings that may be found in a research report. The pages on which these items appear in the main work are marked against them in the list. Like list of tables, list of figures is not necessary if the report does not have any figure in it.

Abstract: The abstract is the last part of the preliminary pages. It is a summary account outlining the major features of your study. An abstract serves as a microcosm of your project report. It is meant to provide, at a glance, a summary of the problem of study, including hypotheses, the research methodology and the results. By its very nature, the length of the abstract is usually one hundred and fifty to two hundred and fifty words, typewritten and double-spaced.

3.4.2 Main Body

This is the section where the researcher makes his report *per se*. From this we can deduce that the main body pages contain the most important parts of the research work. Here, the researcher takes time to detail what he has done. Traditionally, the main chapter of a research report contains five or six chapters.

Chapter 1. Introduction: This chapter stipulates the background of the research, the statement of the research problem, significance of research, research scope, hypothesis, as well as definitions of terms. As expected, the introduction leads one into the research by making clearer the factors that influenced the researcher's concern with the question under consideration. Gilbert (2001) captures the essence of chapter one. He holds that it indicates:

The topic of the paper, demonstrates why this topic is interesting and important, and show how the approach taken in the paper is an advance on previous work. In brief, the purpose of the Introduction is to get the reader hooked. This means starting from the reader's present knowledge and leading him or her on to seeing that the topic is worth spending some time investigating

Chapter 2. Review of Related Literature: The chapter on literature review is an essential step in any research project. The function of the literature review, according to Nworgu (1991), is to provide background information on the research question and to identify what others have said and/ or discovered about the question. Effective review of literature affords you the opportunity of realizing the areas that have been properly investigated and those that still need further investigation thereby guiding you towards restructuring the topic where necessary. It also familiarizes you with the necessary techniques which you may wish to employ for your own research work.

Chapter 3. Design or Methodology of Research: This chapter shows the perspective from which the researcher approaches the research. Knowing the perspective from which a researcher approaches a research will help other researchers to toe the same path if they want to replicate the research in order to confirm or refute its findings. This chapter deals with the method, population and sample of the study as well as the tools and techniques of the research. In essence, it informs the reader about who and who were involved in the research as well as how they were selected in the midst of others, the manner in which data was collected, problems encountered during the collection of data, and ethical considerations that arose in the process of data collection.

Chapter 4. Analysis and Interpretation of Data: In chapter four, the researcher analyses the data which he has gathered in the course of his research. He interprets the data here and tries to make inference from his interpretation.

Chapter 5. Conclusions and Suggestions: This is the final chapter of a report. Here, the researcher summarizes his research findings and suggests ways of improving the research. It is in

this chapter that the research questions raised in chapter one are answered. When this chapter is well-written, it points out the researcher's special contribution to knowledge.

3.4.3 References

The references consist the last part of a research. The references are made up of the bibliography and the appendices.

Bibliography: In carrying out your research project, you often make use of ideas borrowed from other sources. You are expected to provide proper citations to such sources which you have made reference to and from where you must have obtained useful ideas in executing your research. This is done at the end of your research paper under the title 'Bibliography' or 'Works Cited' and is considered very significant. The most authoritative guide for referencing adopted by the National Open University of Nigeria is that provided by the American Psychological Association (APA). It is advisable to categorize the bibliographical data into 'Books', 'Articles' and, perhaps, other materials under which you would include 'unpublished works,' if they are many.

Appendix: The Appendix is the last part of the research project report. It consists of all materials that are related to the report and which may be referred to for greater details but which are not suitable for inclusion in the main body of the report. Such materials include:

- (a) Questionnaire used for data collection,
- (b) Question papers of test examinations,
- (c) Examination scripts of pupils,
- (d) Letters written to and received from respondents and authorities,
- (e) Comprehensive mark sheets,
- (f) Collection of photographs,
- (g) Collections of tables and maps, Etc.

Self-Assessment Exercise 3.4

Discuss the contents of preliminary pages.

3.5 Causes of Failure in Research Report

Presenting a successful research report demands diligence and hard work. However, we have witnessed numerous instances where some research reports fail. Some students have been awarded low marks, and others told to represent their report simply because the report was not properly done. There are also instances where reports submitted for publication in journals were turned down. In what follows, we consider some of the reasons why such reports fail

3.5.1 Lack of Logical Structure

Research points should cohere. Research points are said to cohere when there is a connection between one point and another. When reviewers read research report, they look out for coherence. When they are unable to find it, they simply conclude that the research lacks logical structure and, therefore, should be rejected.

3.5.2 Undeveloped Ideas

Most researchers are full of ideas. However, having ideas without developing them does not attract credit to a researcher. I have reviewed research reports in the past where the researchers lay down ideas after ideas and make no effort to develop them. We may liken this to a gardener spreading seeds in his garden without watering them, leaving them to the mercy of the sun, and wild animals. The sun represents the reviewer who immediately fails the report. The wild animals represent other researchers who may lay hold of the ideas in future, develop them and have credit for them. To develop his ideas, a researcher should think about every point that comes to his mind. He should consider all angles to the points, give reasons why what is accepted is accepted and why what is rejected is rejected.

3.5.3 Lack of Organization

A work lacks organization when it is not well-arranged. An unarranged report may place the research problems in chapter three instead of chapter one. What this tells you is that there are set down procedures for writing every form of research report. A researcher that fails to conform to the procedure of his own form of report risks having reviewers reject his work.

3.5.4 Grammatical and Spelling Mistakes

It is often assumed that anyone who makes careless grammatical and spelling mistakes has no business with research. A researcher should be thorough. He understands that no good writer submits the first draft of his write-up. Every good researcher should also be a good writer. He should carve out time to go through his research report as many times as possible. This affords him the opportunity to strengthen any grammatical or spelling errors that may want to sabotage his research efforts.

3.5.5 Plagiarism

Plagiarism is treated in details in the last unit. It involves taking over the work of others and presenting them as your own. Many student researchers have failed in their reporting because their assessors discovered that they copied other works.

3.5.6 Repetition/ Irrelevant Information

A good research report should go straight to its point. There should not be any room for repetition of ideas or for ‘gossiping’ about irrelevant information. We know from experience that, in order to gain volume, a researcher is often tempted to repeat points he has made elsewhere in the report, and to recount facts that do not contribute to the well-being of the research. At this level, understand that nothing is neutral in a research report. Consequently, any point that does not strengthen a research report weakens it. So be sure to include only the information that will strengthen your report. Once a reviewer is convinced that your report is replete with repetitions and irrelevant information, he stops assessing the report there and then and concludes that the researcher has nothing new to say.

3.5.7 Weak Conclusion

Remember that the conclusion of a research report is meant to bring out the researcher's contribution to the research work. When they read the conclusion of a research report, assessors look for the specific contributions the researcher has made to knowledge. When they cannot find this, they conclude that the whole research report is of no value. Now think of all the sleepless nights.

Self-Assessment Exercise 3.5

Discuss six reasons that may contribute to the failure of a research report

4.0 CONCLUSION

We can rightly say that a research does not yet exist if it is not communicated. Communication can only be achieved when findings are reported by researchers. Thus, research report publicises a research and makes it available for public consumption. A researcher does himself a lot of good if he learns how to report his research well.

5.0 SUMMARY

From this unit: we can deduce the following

- The report is a very essential part of the research process.
- A well-written report should be organized, properly documented, and carefully edited.
- The research work is incomplete without a well-written report.

6.0 TUTOR-MARKED ASSIGNMENT

1. Show your understanding of meaning research report.
2. Discuss the contents of main body of a research report.
3. Compare and contrast a research report meant for journal editor and one meant for sponsoring agents.
4. Discuss seven reasons why a research report may fail.
5. What is oral research report?

7.0 REFERENCE/FURTHER READING

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UNIT 6 *METHODS IN THEOLOGICAL STUDIES*

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Methods in Biblical Studies
 - 3.2 Methods in Church History
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
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1.0 Introduction

Theological studies have their peculiarities, and relevant methods that distinguish them. There are several courses in relevant methods in theological research, which the student of theology should aspire to grasp. No method is to be studied in isolation. The watch word in theological research methodologies is “Multidimensional” and not “Exclusivity”. This unit discusses Methods in Biblical Studies; and Methods in Church History.

2.0 Objectives

By the end of this unit, you should be able to:

- Learn the methods in biblical studies; and church history.
- Discuss the multidimensional nature of methods in theological research.

3.0 Main Content

- **Methods in Biblical Studies**

This section discusses: definition for biblical research, tools for Biblical research, and methods for biblical research.

Definition: According to Wikipedia, biblical studies is the academic application of a set of diverse disciplines to the study of the Jewish and Christian scriptures, the Bible. For its theory and methods, the field draws on disciplines ranging from archaeology, literary criticism, history, philology, and social sciences. The Oxford Handbook of Biblical Studies defines the field as a set of various and in some cases independent disciplines for the study of the collection of ancient texts generally known as the Bible. Several academic associations and societies promote research in the field. The largest is the Society of Biblical Literature (SBL), which publishes the Journal of Biblical Literature (JBL).

Tools for biblical research include: manuscripts, versions, commentaries, encyclopaedia, dictionaries, atlases, parallel bible; interlinear bible; computer software and applications. BibleStudyTools.com is the largest free online Bible website for verse search and in-depth studies.

A biblical manuscript is any handwritten copy of a portion of the text of the Bible. The original manuscripts for Old Testament were written in Hebrew or Aramaic, while the New Testament was in Greek. The study of biblical manuscripts is important because it aids biblical criticisms. Some of the versions of biblical manuscripts include: Dead Sea Scrolls, Septuagint, Peshitta, Vulgate, Masoretic, Samaritan Pentateuch, Targum, and Coptic.

Versions include over 30 different translations of the Bible available either in print or in the web, which can also aid biblical studies through comparison of versions. Some of the bible versions include: King James Version; New International Version; Good News Bible; Revised Standard Version; New American Standard Version; etc.

Bible commentaries are written by well-known and popular theologians, which aid in the study of Scripture by providing explanation and interpretation of Biblical text. Verse by verse exposition of the New and Old Testament can be found in commentary written by some of the greatest Christian church leaders including John Calvin, Matthew Henry, Charles Spurgeon, and C.I. Scofield.

Encyclopedias. Bible encyclopedias contain articles and definitions to thousands of words and terms used in Scripture. Entries include full historical references such as date, religious environment, family life, customs, language, and literature. All encyclopedia terms are cross-referenced and linked to the verses where they are found to help understand the full meaning of the word in context to its use in specific verses of the Bible.

Bible dictionaries are one of the most practical and useful theological reference books available. The combination of definitions and proper names for Biblical words with online verse reference, allows users to define and analyze Scripture. Discover the meaning of words and study them in context to the theological concepts of that specific verse or passage.

Parallel bible. Parallel Study Bible allows users to study verses using more than one translation and version. This study tool can help people see how different translators have interpreted the original language.

The Interlinear Bible is keyed to the Greek and Hebrew text using Strong's Concordance. Read the original and literal Greek or Hebrew text with Strong's words using the King James Version or New American Standard. The interlinear allows for each parallel reading and lexicon study.

Methods: The research of biblical scholars is frequently called biblical criticism. It does not presuppose, but also does not deny, belief in the supernatural origins of the scriptures. Instead, it applies to the Bible methods of textual analysis used in other disciplines of the humanities and social sciences. Many biblical scholars also interact with traditional Jewish and Christian interpreters and methods of interpretation, which may be called biblical exegesis or hermeneutics and history of interpretation or reception history.

Biblical criticism is the scholarly “study and investigation of biblical writings that seeks to make discerning judgments about these writings.” Viewing biblical texts as having human rather than supernatural origins, it asks when and where a particular text originated; how, why, by whom, for whom, and in what circumstances it was produced; what influences were at work in its production; what sources were used in its composition; and what message it was intended to convey. It will vary slightly depending on whether the focus is on the Old Testament, or the New Testament. The critical methods and perspectives now to be found are numerous, and the following overview should not be regarded as comprehensive.

Textual criticism: Textual criticism (sometimes still referred to as "lower criticism") refers to the examination of the text itself to identify its provenance or to trace its history. It takes as its basis the fact that errors inevitably crept into texts as generations of scribes reproduced each other's manuscripts.

Source criticism: Source criticism is the search for the original sources which lie behind a given biblical text. It can be traced back to the 17th century French priest Richard Simon, and its most influential product is Julius Wellhausen's *Prolegomena zur Geschichte Israels* (1878), whose "insight and clarity of expression have left their mark indelibly on modern biblical studies." An example of source criticism is the study of the Synoptic problem. Critics noticed that the three Synoptic Gospels, Matthew, Mark and Luke, were very similar, indeed, at times identical.

Form criticism and tradition history: Form criticism breaks the Bible down into sections (*pericopes*, stories) which are analyzed and categorized by genres (prose or verse, letters, laws, court archives, war hymns, poems of lament, etc.). The form critic then theorizes on the pericope's *Sitz im Leben* ("setting in life"), the setting in which it was composed and, especially, used. Tradition history is a specific aspect of form criticism which aims at tracing the way in which the pericopes entered the larger units of the biblical canon, and especially the way in which they made the transition from oral to written form.

Redaction criticism: Redaction criticism studies "the collection, arrangement, editing and modification of sources", and is frequently used to reconstruct the community and purposes of the authors of the text. It is based on the comparison of differences between manuscripts and their theological significance.

Canonical criticism: Associated particularly with the name of Brevard S. Childs, who has written prolifically on the subject, canonical criticism is "an examination of the final form of the text as a totality, as well as the process leading to it." Where previous criticism asked questions about the origins, structure and history of the text, canonical criticism addresses questions of meaning, both for the community (and communities - subsequent communities are regarded as being as important as the original community for which it was produced) which used it, and in the context of the wider canon of which it forms a part.

Rhetorical criticism: Rhetorical criticism of the Bible dates back to at least St. Augustine. Modern application of techniques of rhetorical analysis to biblical texts dates to James Muilenberg in 1968 as a corrective to form criticism, which Muilenberg saw as too generalized and insufficiently specific. For Muilenberg, rhetorical criticism emphasized the unique and

unrepeatable message of the writer or speaker as addressed to his audience, including especially the techniques and devices which went into crafting the biblical narrative as it was heard (or read) by its audience.

Narrative criticism: Narrative criticism is one of a number of modern forms of criticism based in contemporary literary theory and practice - in this case, from narratology. In common with other literary approaches (and in contrast to historical forms of criticism), narrative criticism treats the text as a unit, and focuses on narrative structure and composition, plot development, themes and motifs, characters and characterization.

Self-Assessment Exercise 3.1

- Briefly restate the meaning of biblical studies; outline some of the tools for biblical studies; and summarize some of the methods in biblical studies.

- **Methods in Church History**

This section discusses: definition for church history, tools for historical research, and methods in historical research.

Definition: Church history is an academic discipline that studies the history of Christianity, and the way the Christian Church has developed since its inception. Church history is often, but not always, studied from a Christian perspective. Writers from different Christian traditions will often highlight people and events particularly relevant to their own denominational history. Catholic and Orthodox writers often highlight the achievements of the ecumenical councils, while evangelical historians will focus on the Protestant Reformation and the Great Awakenings.

Tools: Some of the tools for church history include; **Recent Sources**, namely: *Oxford Dictionary of the Christian Church*; *Westminster Dictionary of Church History* (1971); *Oxford Illustrated History of Christianity* (1990); *World Christian Encyclopedia* (Barrett) (1982); etc. including localized textbooks on African, West Africa, and Nigerian Church History. **Classic Sources**, include: *Encyclopedia of Religion and Ethics (1908-1927)*; *History of the Christian Church* (Schaff) (1884); *Creeds of Christendom* (Schaff) (1883); and *Library of Christian Classics* (series); **Early Church Period**, like: *Ante-Nicene Fathers* (series); *Nicene and Post-Nicene Fathers* (series); *Encyclopedia of the Early Church* (1992); *Cambridge Ancient History* (1970-); etc. **Medieval Period:** *Cambridge Mediaeval History* (1911); *Church History: Middle Ages*; and *Wycliffe literature*; **Reformation Period:** *Oxford Encyclopedia of the Reformation*; Luther literature; Calvin literature; Cranmer literature; etc. **Post-Sixteenth Century:** *Cambridge Modern History*; *History of Christian Missions*; and Wesley literature; etc.

Methods: Normally, church history projects search for information in texts or in oral interviews. The type of project chosen will be decisive for the methods to be applied. The church historian must apply the principles and general rules of the historical method exactly and in their entirety, and must accept at their proper value all facts which have been proved to be certain. The cornerstone of all historical science is the careful establishment of facts. The ecclesiastical historian will accomplish this by a full knowledge and critical treatment of the sources. An

objective, reasonable, and unbiased interpretation of the sources, based on the laws of criticism, is the first principle of the true method of ecclesiastical history. Systematic instruction in this field is obtained through the historical sciences usually known as auxiliary or introductory, i.e. palaeography, diplomatics, and criticism. *Palaeography*, is a methodical introduction to the reading and dating of all kinds of manuscript sources. Secondly, in discussing the facts, ecclesiastical history must ascertain and explain the relation of cause and effect in the events. It is not sufficient merely to establish a certain series of events in their objective appearance; the historian is also bound to lay bare their causes and effects. Nor does it suffice to consider only those factors which lie on the surface and are suggested by the events themselves, as it were: the internal, deeper, and real causes must be brought to light. As in the physical world there is no effect without an adequate cause, so too in the spiritual and moral world every phenomenon has its particular cause, and is in turn the cause of other phenomena. A final characteristic, which ecclesiastical history has in common with every other species of history, is impartiality. This consists in freedom from every unfounded and personal prejudice against persons or facts, in an honest willingness to acknowledge the truth.

Self-Assessment Exercise 3.2

- Briefly restate the meaning of church history; outline some of the tools for church history; and summarize some of the methods in church history.

4.0 Conclusion

This unit has introduced the student to some of the important features in the methods of theological research. Biblical studies and church history were considered. The fields covered are foundational to other fields in theological studies. Advance Research Methods in theological studies are not done in isolation from the general rules of scientific research methods.

5.0 Summary

This unit considered the definitions, tools, and methods of research in biblical studies and church history.

6.0 Tutor-Marked Assignment

- Discuss three basic methods of biblical research discussed in this unit.
- What are three basic characteristics in ecclesiastical research?

7.0 Works Cited/Further Readings

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MODULE 2: RESEARCH DATA

Unit 1:	Literature Review
Unit 2:	The Citation Style
Unit 3:	Internet Research
Unit 4:	The Use of Library in Research

UNIT 1 LITERATURE REVIEW**CONTENTS**

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1.0 INTRODUCTION

Academic research work is never the work of one person. A researcher who desires to make the best of his research work must know that his research work is more of a collaboration effort than a solo effort. He must realize that he needs to consult previous researchers whose work will light the path of his research for him. The act of consulting the works of such other previous researchers is what we call literature review. This unit is devoted to examining the details of literature review.

3.0 OBJECTIVES

At the end of this unit, you should be able to:

- i. define literature review,
- ii. know different methods of reviewing literature,
- iii. understand the rudiments of a good literature review,
- iv. appreciate the importance of literature review,
- v. know the various sources of literature review.

3.0 MAIN CONTENT

3.1 Definitions of Literature Review

We begin by analyzing the component words of our term: *literature* and *review*. Laws *et al*, cited by Blaxter *et al* (2006), hold that literature refers to researches already conducted in a particular subject. Review, on the other hand, is a critical assessment of information at your disposal and making sense of it in relation to your research. Literature review, therefore, is defined as the investigation, examination, analysis, discussion, and critique of studies that have been conducted in one's area of interest in order to show their relevance to one's study. Another definition of it is given by Fink (2005), who sees it as "a systematic, explicit, and reproducible method for identifying, evaluating and synthesizing the existing body of completed and recorded work produced by researchers, scholars and practitioners."

Scientific work is built upon previous scientific works. What this means is that what other scientists have done is quite relevant if a new scientist must make progress in his work. No matter your academic discipline, your academic research work is a scientific work. As a scientific work, your research must be built upon previous researches made in the area of your interest. In accordance with this, Tayie (2005), claims that the ultimate aim of literature review is "to show how your study evolved out of past efforts and how the prior research provides a justification for your study."

The implication is that, no matter what your topic is, there exists an extensive body of literature related to your topic, written in the past by researchers whose names you may never have heard before. Your job as a researcher is to locate these works and discuss some of them. Marczyk, *et al* (2005) recommend what should constitute the salient questions of your discussion if what you are doing is to be regarded as a good literature review. They include:

- i. Have other researchers done any work in this topic area?
- ii. What do the results of their studies suggest?
- iii. Did previous researchers encounter any unforeseen methodological difficulties of which future researchers should be aware of when planning or conducting studies?
- iv. Does more research need to be conducted on this topic, and if so, in what specific areas?

The literature to be reviewed may not be written directly about your topic, but it is your duty as a researcher to discover how it is related to your topic and discuss it. For instance, a student writing a project on “Code-switching among Nigerian Language Users” ought to know that other researches about code-switching anywhere in the world is relevant to his work. He also has to know that works about Nigerian languages which are not specific about code-switching are also important to him, and so on.

When you are reading the literature for review, you must read with purpose. You must be able to differentiate between reading for the purpose of review and reading for entertainment and pleasure. A good literature review is selective. This means that if you want to make the best of your literature review, you must know which literature items to select out of the ones that are available to you. As a rule of the thumb, when you have two literature items vying for equal attention, when you must choose from one of them, you should favour recent materials on the topic, as they represent the highest development of the topic in question. Apart from recent materials, a good literature review should identify the seminal work that was done in the area of the researcher’s interest. We refer to seminal work as any work that experts in any field refer to as key work in a particular research interest in their field.

You must have noticed that the literature review often falls in chapter two of your research work. This means that it is written early in your research work. Indeed, most universities expect the literature review to form part of the students’ project proposal. Do not be deceived by the position of the literature review into thinking that literature review is a work you finish early. The best thing is to see what you wrote early as your first draft, since the reality of literature review is that you keep coming back to it as your research progresses and as you discover information that was not available to you when you first wrote your first draft.

Self-Assessment Exercise 3.1

What is literature review?

3.2 Aims of Literature Review

This refers to what a literature review intends to achieve. Torgesson (n.d).identifies nine of such aims of literature review. He lists them as follows:

- i. to address a specific (well focused, relevant) question;
- ii. to search for, locate and collate the results of the research in a systematic way;
- iii. to reduce bias at all stages of the review (publication, selection and other forms of bias);
- iv. to appraise the quality of the research in the light of the research question;
- v. to synthesize the results of the review in an explicit way;

- vi. to make the knowledge base more accessible;
- vii. to identify gaps; to place new proposals in the context of existing knowledge;
- viii. to propose a future research agenda; to make recommendations;
- ix. to present all stages of the review in the final report to enable critical appraisal and replication.

Self-Assessment Exercise 3.2

List six aims of literature review.

3.3 Types of Literature Review

A long list of types of literature review has been developed by scholars. However, a thorough examination shows that all of these can be coalesced into just three forms of literature review. They include: *integrated research review*, *the theoretical review*, and *the thematic research review*.

3.3.1 Integrated Research Review

The integrated research review is the type that examines previous works in a particular area of interest and identifies the relationship among the works being examined. Through careful examination of these previous works, the researcher discovers areas that have not been worked on or areas that need attention. The discovered lacuna is what a good researcher must intend to fill. One who is using the integrated research review will do well if he arranges his literature review in order of time of publication from the earliest to the newest in order to show the historical development of his topic.

3.3.2 Theoretical Review

According to Cooper (1989) the theoretical review attempts to examine the various theories which researchers have put forward concerning a particular topic. The researcher undertakes a critical examination of the theories in order to rate their importance.

3.3.3 Thematic Review

Under the thematic type of literature review, the researcher structures his review in sections or themes in order to capture different approaches, interpretations, schools of thought, and so on, in the area of study. Odimegwu (2010) holds that the thematic method requires that the researcher goes through all the works to be reviewed in order to sieve out dominant themes and organize his research according to the dominant themes. With these themes, it will be easier for the researcher to highlight achievements and deficiencies in the field of study. This demands a great deal of analysis and synthesis on the part of the researcher.

Self-Assessment Exercise 3.3

Differentiate between the theoretical method of review and the thematic method.

3.4 Qualities of a Good Literature Review

A good literature review makes some special demand on the researcher. Tayie (2005) warns that, in writing your literature review, you must make sure that what you have written is accurate and relevant. Thus, accuracy and relevance are two qualities of a good literature review.

3.4.1 Accuracy

A good literature review should present the authors' views as they presented them. This means that every point, position, finding, etc., of each research must be presented the way the author of the literature you are reviewing presented them. There may be a temptation to distort some facts in order to suit one's position in an issue. This should be avoided completely. Perhaps, it is necessary to state here that your literature review should not contain only the works that support your position. As you must have already noticed, there are always works that hold positions that are in opposition to your own. When you find such works, you should review them too. Your ability to refute such positions shows your readiness for research work. On the other hand, your inability to refute them means that you have nothing to offer on the topic.

3.4.2 Relevance

In 3.4.1, we said that a good literature review should be accurate, and should represent facts as presented by the authors of the literature. This is not the only thing you are required to do. Your literature review should constitute a work on its own, different from the work of the authors you have reviewed. If you are able to achieve this, then you have done a good job, and your work has relevance. Tayie (2005) holds that a relevant literature review should contain analysis and synthesis. This means that researcher must sieve out the salient points in the literature he encounters and make the necessary connection between it and other materials. What is your own view concerning others' positions you have highlighted? Your ability to show these ensures that your writing will not be disjointed, and will not be seen as assemblage of unrelated writings.

Self-Assessment Exercise 3.4

Discuss the two qualities of a good literature review.

3.5 The Importance of Literature Review

A good literature review is of utmost importance to your work. Researchers who know how to write the literature review well know that their works are almost done once they are through with their literature review. The truth is that there are examiners who score students based on the contents of their literature review. This underscores the relevance of literature review to your research work. In what follows, we shall state some of the reasons why literature review is of importance to your academic research work.

3.5.1 It provides Background Knowledge of the Research Topic

Very few things are known to us by intuition. This implies that we gain most of our knowledge through experience. Literature items are one of the major sources of experience from which we come to know the things that we know. Literature review gives you the opportunity to acquaint yourself thoroughly with your topic. The more literature you review, the more knowledge you gain about your topic. Your examiner wants to know the level of knowledge you possess about your topic. A good literature review affords you the opportunity to demonstrate your knowledge to your examiner.

Haider(2004) holds that a good background knowledge of one's topic gives one the opportunity to discover the subjects in which the topic has been studied, the main perspectives on the topic in previous research, the key concepts in an area of study, the main research questions in previous research, the main conclusions in previous research. In addition to these, a good background knowledge of the literature in one's area of interest will help one to sieve out which areas of a particular material are relevant for one's research. One will also be able to know which of the relevant literatures are open to debate as this will help him to form his own view about the topic.

3.5.2 Helps the Researcher to Place His Work in the Context of Previous Researches

A good literature review must be able to show a connection between the research and previous researches. It gives room for comparison to be made between the research and those that came before it.

3.5.3 Helps the Researcher to Identify Data Sources

The researchers whose works you are reviewing consulted scholars who wrote before them. The works of such scholars are of relevance to your work too. So literature review will provide you the lead to other works that are important to your work.

3.5.4 Helps the Researcher to Identify Knowledge Gap

A good literature review should first of all identify the progress that has been made in the area of study that is of interest to the researcher. This is necessary if the researcher will not make the mistake of researching topics others have concluded. Besides this, literature review shows areas of knowledge where much progress has not been made. This creates an opening for the researcher to show areas where he intends to contribute.

3.5.5 Helps the Researcher to Identify the Shortcomings of Previous Researches

Reading and discussing the literature written in your area of interest open your eyes to what others have done. More specifically, it shows you the problems encountered by previous researchers on your topic. This immediately raises, in your mind, a question of how to surmount those problems which were shortcomings to previous researchers. For instance, a previous researcher in your area of interest may have encountered problem in his work because of the method he adopted while he was on the research. You may not know this if you do not read his

work. As a result, there is a great tendency that you too will adopt the same method he used and fall into the same error.

3.5.6 Helps the Researcher to Identify Other Researchers for Possible Collaboration

When you do literature review you encounter scholars who share the same interest with you. This will open your eyes to the fact that every researcher approaches the question from different perspective. On discovering, this, you may develop the interest to collaborate with some of the researchers in order to give your work the advantage of having two good heads on it.

3.5.7 Helps the Researcher to Learn How Others Structured Their Works

The literature that you consult in the process of your research should serve as your teacher. It should open your eyes to what others have done in your field of interest and how they did it. This will help you to try to emulate them in the structuring of your work.

3.5.8 Helps the Researcher to Formulate Researchable Topics

You may have heard from your supervisor that some topics are not researchable. Researching unresearchable topics has proved the bane of many a stubborn student. Paucity of literature or outright unavailability of previous literature in a particular area is one of the reasons that may make a topic unresearchable. A good student should run as fast as his legs can carry him from such topics that have no previous literature written on them. If other writers do not find the area appealing enough to devote their expertise to it, it means there is nothing there for you. Thus, if a topic has rich literature devoted to it, it means there is something there which others are digging. You can dig too. We do not deny the possibility of ground-breaking/unprecedented research or discovery that is unrelated to anything we already know. If your dream is to make such discovery, keep your dream for the future as what is demanded of you as a student is just to learn the rudiments of searching, and researching into what others have searched.

3.5.9 Helps the Researcher Not to Repeat a Research

Literature review saves you the pain of repeating researches that have been done by others in the past. Redoing researches done by others and arriving at the same conclusion like them is regarded as mark of un-seriousness and dishonesty. Reviewing the literature done by others gives you the advantage of knowing who has done what, and saves you the disgrace of coming out with outdated research.

Isaac Newton completed his research on Gravitation hundreds of years ago. What if a researcher comes out with the same discovery as Isaac Newton in 2002 and announces to the whole world that he arrived at his discovery through an original study? Such a person will be looked upon with pity for wasting his energy in a work that has since been completed.

In sum, literature review affords researcher the opportunity of knowing what has been done in the areas of his research, what remains to be done, and the basis for his own research. Besides, the techniques to employ to employ in his investigation would be clear to a researcher once he has done a good literature review.

Self-Assessment Exercise 3.5

List five reasons why you consider literature review very important to your research.

3.6 Sources of Literature

The literature to be reviewed can be obtained from the following sources: Books and Journals; Electronic Data Bases, Government and Industry, Internet.

3.6.1 Books and Journals

Books and Journals are the easiest sources of the literature for review. Books and Journals detail what have been written in a particular topic over time. An undergraduate that engages in a research should see his textbooks as the natural place to begin. From there, he can proceed to more sophisticated books, and then journals. Journals are more technical and often give a particular author's point of view to an issue. Having access to journals will help the student to learn how to form his own point of view on an issue and how to argue his case. Journals also have more advantage than books, as they always treats current issues.

A research student knows that he can buy some of these books and journals on his own. However, the surest place to look for books and journals remains the library. Good libraries have stockpiles of current books and journals on a wide variety of topics. The beauty of books and journals is that a book or journal can always, in its reference section, direct you to other books that are relevant for your research. The library is a good place to come for such books.

Many books and journals can also be located in the Internet. While some of these books and journals are free, others demand that you make some payment to have access to them. A research student can access some of the free journals in the Internet through this link: www.doaj.org

Once you get hold of a book that you think is important for your research, quickly go through its table of contents and check whether it treats any issue that is relevant to your research. If you cannot find this in the table of contents, then you check through the index page toward the end of the book for important words or terms of your research. If the book contains what you need for your research the index page will direct you to the exact page to find it.

3.6.2 Electronic Databases

A database refers to electronic warehouse of information. There are uncountable number of database management systems that operate databases, provide storage, access, security, and backup of educational materials. The databases arrange information orderly and one knows exactly where to get what one needs once one gets access to them. There are databases that allow students direct access once he has paid some fees. Most databases are open for institutional subscriptions only. In this case, a student that needs information from a particular database may only do so using his institution's subscription. Do approach your university's librarian for instruction/directives on how to access these databases. Through the instrumentality of National

Universities Commission, they are provided free of charge to students and researchers in Nigerian institutions.

3.6.3 Government

Government reports on various issues provide a ready source of literature review. Most government reports are free, and a research student can easily walk into the ministry where the information exists, identify himself and have the information he needs. Government can provide you information on population, education, birth rate, and so on.

3.6.4 The Internet

The Internet provides an amazing number of pieces of information such that it is difficult for a good surfer of the web to exhaust the literatures that are available on the Internet in his research work. Thus, the Internet is one of the first places a student should begin his research from. Using one of the numerous search engines available on the Internet can be quite helpful to a student who is researching on any topic.

Self-Assessment Exercise 3.6

List and explain three sources of literature.

4.0 CONCLUSION

We have made you understand that literature review is of utmost importance to your research. Being able to trace the development of your research topic is an essential step in any research work. A research student should endeavour to do a thorough literature review of his work if he intends other scholars to take his research seriously.

5.0 SUMMARY

We have led you through the rudiments of literature review. You have also understood why it is important that you do literature review. Moreover, you have learnt how to organize your literature review for effective performance as well as where to locate sources for your literature review.

7.0 TUTOR-MARKED ASSIGNMENTS

1. Distinguish between thematic research review method and integrated research review method.
2. Discuss how you can ensure the accuracy of your literature review.
3. List eight aims of literature review.

7.0 WORKS CITED/FURTHER READINGS

- A. Fink. (2005) *Conducting Research Literature Reviews: From the Internet to Paper*, 2nd edn. Thousand Oaks, CA: Sage.
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- S. Tayie. (2005). *Research Methods and Writing Research Proposal*. Cairo: CAPSCU.
- T. B. Cornwell., and I. Maignan. (1998). "An International Review of Sponsorship Research," *Journal of Advertising*, 27(1): 1-21.

UNIT 2 THE CITATION STYLES**CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Definition of Citation
 - 3.2 Types of Citation
 - 3.3 The Relevance of Citation
 - 3.4 What to Cite
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1.0 INTRODUCTION

Researchers are like members of a community. As a community, researchers live by rules that govern research activities. This unit is designed to aid your understanding of principles and practices of citation. Through practical examples, the unit leads you step-by-step to the various ways of citing various sources which you use in your research.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- i. define citation
- ii. explain why citation is very important
- iii. distinguish between different types of citation
- iv. identify items to cite in your research
- v. assimilate the rules guiding the different citation styles
- vi. cite your sources very well.

3.0 MAIN CONTENT

3.1 Definition of Citation

Citation simply means the act of acknowledging your sources. The need to acknowledge sources arises from the fact that a researcher's work is often done with the help of other researchers whose works he has consulted. When a researcher cites his sources, he gives credit to those authors whose works he consulted in the course of his research.

Self-Assessment Exercise 3.1

What is citation?

3.2 Types of Citation

Citations are done in three basic forms. They include footnotes, endnotes and parenthetical citation. Each of these forms gives a reader ample information about the materials (books, journals, web sources, cassettes, CDs, etc.) you used in your research.

3.2.1 Footnotes

Footnotes locate sections that are quoted inside a work and provide a reader with the information as regards the source of a quotation. Footnote requires that a researcher inserts serialized numbers after the sentence or quote that requires a note. The Microsoft Word processing program has a function that allows you to insert and format footnotes automatically. This could be of great importance to you if you learn how to use it.

Footnotes appear at the foot of every page that has a quotation or borrowed material in order to provide information about the quotation or borrowed material. Usually, footnotes contain all the information as the work cited except they provide added information on the page from where the quotation is taken. This is often the last information to be provided in the footnote. Another difference between footnote and work cited list is that footnote begins with authors' first name, whereas the works cited list begins with his last name. Finally, while entries in *works cited* section are arranged alphabetically footnotes are numbered in the order of appearance.

Most researchers no longer favour footnote as a form of citation. However, there are a number of institutes and universities which insist that their students use the footnote as their form of citation. A student researcher should, therefore, bear in mind that the decision of his supervisor or institution is final as regards the type of citation to use.

Example of a Footnote: "Good English demands that the verb *rely* should be followed by the preposition *on* or *upon* and never *in*."¹

The relevant information about this quotation should be captured at the end of the page in which it appears. Below is how the information about the quotation will appear at the end of the page.

1. Joy Eyisi. *Common Errors in the Use of English*. Onitsha: Africana First Publishers Ltd., 2004. 258.

3.2.2 Endnotes

More departments and professors advise their students to use the endnote type of citation. The endnote shares all the characteristics of the footnote but one. Thus, a student who has mastered the footnote shall find it easy to use the endnote. However, the endnote differs from the footnote in that, while the footnote appears at the foot of the page where the quotation is made, the endnote appears at the end of the entire chapter.

Example of an Endnote: “Good English demands that the verb *rely* should be followed by the preposition *on* or *upon* and never *in*.”¹

The relevant information about this quotation should be captured at the end of the chapter in which it appears. Below is how the information about the quotation will appear at the end of the chapter.

1 Joy Eyisi. *Common Errors in the Use of English*. Onitsha: Africana First Publishers Ltd., 2004. 258

Notice that, as already indicated above, the presentation is the same as that of the footnote, except that the endnote appears at the end of the chapter.

3.3.3 Parenthetical Citations

This is the most current way of citing sources within the body of a research paper. Most scholars favour the parenthetical type of citation. The reason for the prominence which the parenthetical citation enjoys among researchers is as a result of its easy-to-use method, and its ability to inform readers immediately of the source of information. The parenthetical citation “lists the book the statement or information was taken from and the page number in parentheses immediately following the statement” (Stark 89).

Example of Parenthetical Citation: “Good English demands that the verb *rely* should be followed by the preposition *on* or *upon* and never *in*” (Eyisi 258)

This simply informs the reader that the citation was taken from page 258 of a book authored by Eyisi. To know the name of the book the reader is expected to see the *Works Cited* lists at the end of the research.

Self-Assessment Exercise 3.2

Demonstrate with two examples each, your knowledge of the use of endnote and parenthetical citation.

3.3 The Relevance of Citation

Academic research is a scientific work. The aim of research is to propel progress in the body of knowledge that is available to us. Progress in research, and in knowledge, therefore, is cumulative. What this means is that, when researchers make their discovery they only build on

the work of previous researchers. Thus, when one cites, one shows the previous researchers whose works one is building upon. By doing this, one is able to show the limit of progress made by other people, and the extent of one's own progress.

When a researcher fails to cite his sources, it could be as a result of one or a combination of a number of these factors:

1. He has not contributed anything to knowledge. In this case, his research is worthless.
2. He has written a work of fiction.
3. He has made an entirely new discovery that is unconnected to anything anybody has done on earth. Why this could be possible thousands of years ago, scholars believe that it is no longer possible for anybody to make a discovery in our world that is totally unrelated to the works of others before him.
4. He is dishonest. In this case, he wants to appropriate the works of others to himself. A researcher who does this has committed a crime known in the academic world as *plagiarism*. Plagiarism is a serious crime. It may lead to the suspension or expulsion of a student once it is discovered.

Apart from helping to demarcate your contribution from that of others, there are other reasons why it is important to cite your sources. Griffith (1982) lists these to include:

1. Allowing others to find and read the same material as you. This is very important as reading the same material as you did affords others the opportunity to have all the evidence that informed the conclusion that led to your discovery at hand. This will help them to confirm your discovery or reject them. A researcher is always seen as a seeker of the truth. He is not afraid of having others disagree with him.
2. Allowing others to check the reliability of your sources, and your ability to use them fairly and accurately.
3. When you cite experts in your field, it confers some level of authority on your work that such honoured experts corroborate your study.

Self-Assessment Exercise 3.3

Explain four reasons why citation is very important.

3.4 What to Cite

While it is very important that a researcher cites his sources, it must be noted that there are instances when this is not necessary. For instance, one should not cite oneself. Again one should not cite common knowledge. Knowledge is common when it is expected that all average learners have it. For example, it is a common knowledge that Chinua Achebe is the author of *Things Fall Apart*, and that Wole Soyinka was the first African to win Nobel Laurel in literature. Even when you find such information written down in a book, you are not expected to cite it. An average educated Nigerian knows this. We are still stuck to our question: What do we cite? We may cite the following:

Primary Sources: These are considered the most important sources in any research work. Primary sources include “accounts of circumstances by individuals who are directly involved or have experienced what they are writing about first-hand”(Stark 2003). A person writing a research on *The Joys of Motherhood* by Buchi Emecheta must know that her primary source is *The Joys of Motherhood*. Writings of other people about *The Joys of Motherhood* only qualify as secondary sources. Other things that will qualify as primary source here includes Emecheta’s personal diaries from a particular time period, physical, geographical, or topographical maps of the setting of her work, etc. Whenever you take information directly from the primary source, you are expected to acknowledge it.

Secondary Sources: These include “books, magazine articles, or pamphlets by authors who have already collected materials and written about events after they have occurred, or from a perspective that is not immediate or firsthand” (Stark 25). Example of secondary sources include: reference books, compendiums of various kinds, a collected history of ideas or world philosophies, a Reader’s Guide to current and past periodicals, etc. Any reference to this must also be acknowledged.

Direct Quote: Direct quotes refer to those quotations which you take from a book or other sources and place in your work without modification. You should always cite this whether you take it from primary or secondary source.

Paraphrase: When you paraphrase, you state other people’s ideas in your own words. When you do this, you are expected to cite it.

Unassimilated Ideas: Some ideas may have stayed for a very long time with you that you think they are yours. When this happens it is said that you have assimilated the idea. But be careful about this. When one assimilates an idea, one must have infused it with one’s own words, and thoughts, such that the words of the originator of the idea are no longer there and one is no longer conscious of the idea originating from other persons. However, once one is conscious that an idea comes from another person, one must cite one’s source.

Self-Assessment Exercise 3.4

Draw a list of instances where you must cite your source.

3.5 The MLA Citation Style

The *MLA Citation Style* is one of the popular methods for providing information about sources used in a research paper. Other popular citation styles include the *APA Style*, developed by the American Psychological Association; the *Chicago Style*, developed by the University of Chicago Press. The MLA Style was developed by the Modern Language Association of America. The Modern Language Association of America was founded in 1883 in New York City as an organization of scholars and teachers of English and other modern languages. Apart from researchers in the field of languages, the MLA Style of Citation is particularly favoured by scholars in other field of Humanities.

Since it published its “MLA Style Sheet” in 1951, the MLA has been updating its style to meet with the challenges of the times. This unit draws heavily from the seventh edition of the *MLA Handbook for Writers of Research Papers* published in 2009.

Self-Assessment Exercise 3.5

Scholars in which field favour the use of the MLA?

3.6 General Guidelines about *Works Cited* in MLA

A student who has adopted the MLA Style of Citation is expected to draw a list of all the works he cited in the course of his research. Remember that you were told in 3.2 above that, apart from few differences which have already been noted, the works cited section is similar to the footnote and endnote. The following rules guide the listing of works cited section.

1. The list of works cited appears at the end of the research.
2. It begins on a new page different from the page containing parts of a chapter of the research.
3. Centre the title, *Works Cited*, an inch from the top of the page.
4. Double-space between the title and the first entry.
5. Begin each entry flush with the left margin. When an entry runs more than a line, indent the subsequent line or lines one-half inch from the left margin.
6. Arrange entries in alphabetical order.
7. Alphabetize entries by the authors' last names.
8. Double space within an entry and between entries.
9. When an author has more than one work, substitute three hyphens for the author's name after the first citation.
10. Names of authors are written as they appear in his work: Do not write initials when the author has given his name in full.
11. Always italicize the title of books.
12. Entries are made in this order for books: Author's last name, author's first name, title of book, city of publication, publisher's name and date of publication.

Self-Assessment Exercise 3.6

Outline five rules guiding the use of the MLA Style.

3.7 Samples of Works Cited for Printed Materials

A. BOOKS

Example with Book by One Author

Omazu, Eric. *The Last Requiem*. Pittsburg: RoseDog Books, 2011. Print.

Example with Book by Two Authors

Bernstein, Carl, and Woodward, Bob. *All the President's Men*. New York: Warner Books, 1974. Print.

Example with Two or More Books by the Same Author

Eyisi, Joy. *Common Errors in the Use of English*. Onitsha: Africana First Publishers Ltd., 2004. Print.

---. *The Mechanics of Reading Comprehension and Summary Writing*. Nimo: Rex Charles and Patrick Ltd., 2005. Print.

Example with an Edited Book

McIntyre, Lisa, ed. *The Practical Skeptic: Readings in Sociology*. Boston: McGrawHill, 2002. Print

Example with a Translated Book

O'Brien, Justin, trans. *The Myth of Sisyphus and Other Essays*. New York: Vintage Books, 1955. Print.

B. PERIODICALS

Periodicals include such media like newspapers, magazines, and scholarly journals.

Example with an Article in a Scholarly Journal

Olanrewaju, Farinde. "Forensic Linguistics: Power and Asymmetries in the Nigerian Courtroom Discourse." *UJAH* 11.2 (2010): 40-70. Print.

Example with an Article in a Newspaper

As a rule, do not include article, definite or indefinite, before the name of a newspaper when you cite it. When articles of a newspaper are not printed on consecutive pages, write only the first page number and a plus sign. This rule is also applicable to magazine articles. We shall demonstrate this last point when giving example with article in a magazine.

Ikeje, Ogochukwu. "INEC's Seat of Fire." *Nation* 30 Jan. 2011: 12. Print.

Example with an Article in a Magazine

Kolade-Otitoju, Babajide. "Jonathan's Burden." *News* 1 Mar. 2010: 18+. Print.

Self-Assessment Exercise 3.7

Demonstrate with your own examples how to cite a magazine article, and two books by the same author using the MLA.

3.8 Samples of Works Cited for Web Materials

The Internet has come to stay with us. At the same time, it has come to change the way things are done. Research is one of the human activities that are affected by the Internet. This is because uncountable research materials abound on the Internet, and the researcher only needs to move his mouse to have access to them. Giving the volume of sources which the Internet yields, all the major citation guides have adjusted their methods of citations in order to accommodate Internet sources. In this section, we shall study how the MLA web materials are cited.

As a general rule, it is required of the researcher to provide such information as:

1. Name of the author of the work
2. Title of the work
3. Title of host website
4. Publisher of the website, if not available use N.p.
5. Date of publication (day, month and year as available)
6. Medium of Publication (Web)
7. Date of access (day, month and year)

Example with Non periodical Publication

Lenburg, Jeff. *Guide to Research*. New York: Facts on File Inc., 2005. Web. 29 Dec. 2010

Example with Periodical Publication (Journal)

Shah, Parilah Mohd, and Fauziah Ahmad. "A Comparative Account of the Bilingual Education Programs in Malaysia and the United States. *GEMA Online Journal of Language Studies* 7.2 (2007): 63-77. Web. 5 June 2008.

Self- Assessment Exercise 3.8

Demonstrate your understanding of how to cite MLA periodical publication from the web using your own example.

3.9 Citing Additional Common Sources

Television or Radio Broadcast: As a rule, television or radio broadcast are cited in this order:

1. Title of episode or segment (in quotation marks)
2. Title of programme or series (in italics)
3. Name of network
4. City of the station
5. Broadcast date
6. medium of Reception (Radio or Television)

Example

"Fredrick Douglass." *Civil War Journal*. Narr. Danny Glover. Dir. Craig. Haffner. Arts and Entertainment Network. 6 Apr. 1993. Television.

Self-Assessment Exercise 3.9

Give an example of how to cite a television broadcast using the MLA

3.10 The APA Style

APA Style is the citation style developed by the American Psychological Association. It is a model of citation that is favoured mainly by researchers in the Sciences. The APA style does not differ in terms of content from the MLA Style we treated before. The difference that exists between APA and MLA has to do with position of some of the contents of citation. We must note the following as some of the major rules that guide APA Style Citation.

1. Date follows immediately after the name of the author
2. Only the first letter of the title or sub-title (except proper nouns) are written in capital letters
3. Names of all authors are written down unless they are up to six and above

A Book by One Author

Omazu, E. (2001). *The last requiem*. Pittsburg: RoseDog Books.

A Book by Six or More Authors

Nwaolisa, et al. *Banking in the twenty-first century*. Awka Etit: Gabriel Emeh

A Book by a Group or Corporate Author

American Psychological Association.(2001). *Publication manual*. Washington
D.C.: APA

A Translated Book

Camus, A. (1955). *The myth of sisyphus and other essays*. (O'Brien. Trans)New
York: Vintage Books

An Article in an Encyclopaedia with One Author

Bergman, P. G. (1998). Relativity. In *The new Encyclopaedia Britannica* (Vol. 26,
pp. 501–508). Chicago: Encyclopaedia Britannica.

An Article or Chapter in an Edited Book

Tutuola, A. (1976). Akanke and the jealous pawn broker. In A. G. S. Momodu and
U. Schild (Eds.), *Nigerianwriting* (pp. 80-95). Benin City: Bendel Book Depot

An Article in a Journal

Olanrewaju, F. (2010). Forensic linguistics: Power and asymmetries in the
Nigerian courtroom discourse. *UJAH* 11 (2) 40-70.

Article in a Newspaper

Ikeje, Ogochukwu. (2011, January 30). INEC's seat of fire." *The Nation* p. 12.

An Article from Electronic Journal

Taib, M. (2010). The Pathology of race and racism in postcolonial society: A reflection on Frantz Fanon's black skin, white mask. *The Reading Group*.
Jan 30, 2011. from [http:// www.thereadinggroup.sg.pdf](http://www.thereadinggroup.sg.pdf).

Self-Assessment Exercise 3.10

Cite a book by one author using the APA Style Citation Guide.

4.0 CONCLUSION

We have made you to understand that research is a cumulative work. Research works are meant to build upon earlier researches. Thus, a research has the obligation to show the links which his work has with previously existing researches. The only way to do this is through citation. You have been guided on the appropriate way to cite some of your sources through the use of the MLA and APA Citation Styles.

5.0 SUMMARY

In this unit, we have tried to understand the meaning of citation, and why citation is very important. We have also exposed to you the use of the MLA and APA Citation Styles.

6.0 TUTOR-MARKED ASSIGNMENTS

1. What is citation?
2. Give four reasons why you consider it important to cite your sources.
3. List the four types of citation and demonstrate your understanding of their usage with examples.
4. List ten guidelines for the *Works Cited* Section in an MLA Style.
5. Using the APA Style, demonstrate how you should cite a newspaper article.

7.0 WORKS CITED/FURTHER READINGS

Eyisi, Joy. (2004). *Common Errors in the Use of English*. Onitsha: Africana First Publishers Ltd.

Griffith, Kelley. (1982). *Writing Essays about Literature*. San Diego: Harcourt Brace Jovanovich Publishers, 1982.

Lenburg, Jeff. (2009). *Guide to Research*. New York: Facts on File Inc., 2005. *MLA Handbook for Writers of Research Papers* 7thed. New York: Modern Language Association of America.

Stark, Racheal. Research and Writing Skills Success in 20 Minutes a Day. New York: Learning Express, 2003. Web. 25 Jan. 2011.

UNIT 3: INTERNET RESEARCH

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Understanding the Internet
 - 3.2 Problems of the Internet
 - 3.3 Research information on the internet
 - 3.4 Internet Search Engines
 - 3.4.1 Advantages of the Search Engines
 - 3.4.2 Disadvantages of the Search Engines
 - 3.5 Metasearch Engines
 - 3.5.1 Advantages of the Metasearch Engines
 - 3.5.2 Disadvantages of the Metasearch Engines
 - 3.6 Subject Gateways
 - 3.6.1 Advantages of the Subject Gateways
 - 3.6.2 Disadvantages of the Subject Gateways
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 Works Cited/Further Readings

1.0 INTRODUCTION

The Internet is one of the scientific revolutions of the 20th and 21st centuries. It has affected the way things are done in our world. Today, anyone who does not make the use of the Internet is described as living in the past. Indeed, one of the areas that the Internet has offered us tremendous assistance is in the area of research. A researcher who makes good use of the internet has the whole world in his hand during the period of his research. This unit guides you on some of the tips to make a successful use of the Internet in your research.

2.0 OBJECTIVES

At the end of this unit you should be able to:

- i. understand the meaning of internet
- ii. know the problems associated with researching on the internet
- iii. know the type of material available for your research on the internet
- iv. know the research options available on the internet and how to use them.

3.0 MAIN CONTENT

3.1 Understanding the Internet

The internet (otherwise known as the World Wide Web, abbreviated as *www*) refers to a network of computers that are globally linked to one another through satellite and telephone. The internet collects information from a linked computer and makes same available to other computers that are scattered world-wide. The Internet provides an easy way to share information between people that are separated by space and time. Researching through the internet can be a hard and difficult process if the researcher lacks appropriate know-how about how to approach the internet. The internet is said to contain an estimated 3 billion documents not indexed in any standard vocabulary or by standard Library of Congress subject headings. So if you do not know what you want, you will not get very far. On the other hand, one who knows the rudiments of the internet finds it as the most simplistic way to research.

Self-Assessment Exercise 3.1

1. What is the Internet?
2. Why do you consider the knowledge of the internet significant to a researcher?

3.2 Problems Associated with Internet Research

Despite the advantages that the internet offers, a researcher should be quite careful with the information he accesses on the internet. This is because there are a number of problems associated with researching with the internet. Such problems include the following:

1. Not all the information on the internet are “reputable, credible, accurate, or reliable in terms of content.” (Lenbourg 2005). Thus, it is advised that the researcher avoids personal web pages as they are more prone to inaccurate and misleading information.
2. Internet information is often overloaded and may provide the researcher with the problem of choice and selection.
3. There is also the problem of information move or site change. When this happens, the researcher finds it difficult to locate a previously marked information.

Self-Assessment Exercise 3.2

What are the three problems associated with internet research?

3.3 Research Information on the Internet

A researcher who has decided to make use of the internet for his research should realize that, even though the internet offers easy access to information that are shared by users, there are limits to what are available on the internet. A good knowledge of these will help the scholar not to pursue a wild goose chase in the process of his research. Thus, information that cannot be got from the internet should be looked for elsewhere. For a guide, Zainudin Johari of the Unity

College International provides a list of items that a researcher can find from the internet for purposes of his research. They include the following:

- i. Company reports and financial information,
- ii. Conference proceedings,
- iii. Contact details for other researchers,
- iv. Laws, government announcements and parliamentary debates,
- v. News and current affairs,
- vi. Databases of reference materials,
- vii. Places where you can discuss topics and ask for help,
- viii. Reference sources like almanacs, dictionaries, encyclopaedias, etc.

Self-Assessment Exercise 3.3

List five research information one can access on the internet.

3.4 Internet Search Engines

The search engines enable the researcher to search for internet materials using key words which describe the information one is researching. They are best suited for providing information when one is searching for words that are less common, topics that are narrow, and when one wants to view a large number of pages. The search engines constantly update themselves through the activities of computer programmes (bots or spiders) which constantly search the internet for new information. Once new information is found, the programmes index them in a central database for references. Some of the internet search engines include: Excite <http://www.excite.com>; Google <http://www.google.com>; AltaVista <http://altavista.com>.

3.4.1 Advantages of the Search Engines

The following are the advantages of a search engine:

1. Provision of a wide coverage of the Web.
2. Orderly arrangement of materials according to their relevance to your research.
3. It is flexible, as it offers the researcher the opportunity to refine and enhance his research.
4. At times, they offer links to related materials.
5. Sometimes they offer a directory listing of popular sites.

3.4.2 Disadvantages of Search Engines

The following are the disadvantages of search engines:

1. May return too much information that may be unmanageable to the researcher.
2. Have less capacity to sort out information.
3. Different engines have different information. This means that the researcher must search in more than one search engine.
4. The search engines do not have similar rules for refining search.
5. Some search engines, at times, include advertisements as search results.

Self-Assessment Exercise 3.4

List five advantages of a search engine.

3.5 Metasearch Engines

The Metasearch engines provide a researcher with information that is contained in many search engines at once. The Metasearch Engines do not search information directly on the web. Rather they send the search to many search engines at once which locate the information and return same to the metasearch engines. As a rule, always begin your internet research with the metasearch engines as they provide you with overview of what are available. Some of the well-known metasearch engines include: Dogpile <http://www.dogpile.com>; Search.com <http://www.search.com>; and Metacrawler <http://metacrawler.com>.

3.5.1 Advantages of Metasearch Engines

1. They provide search in many search engines.
2. They are able to eliminate duplicate records or pages.
3. They are able to sort pages into topics.

3.5.2 Disadvantages of Metasearch Engines

1. They often return too much information.
2. They are discriminatory in the results they show.

Self-Assessment Exercise 3.5

Demonstrate your understanding of the way metasearch engines work.

3.6 Subject Gateways

Another name for Subject Gateways is Directories. The Subject Gateways organize web pages according to subject areas. The subject gateways are used when a researcher is researching on a well-defined topic, needs less material, or access to databases. Some of the known subject gateways include yahoo <http://www.yahoo.com>; BUBL <http://bubl.ac.uk>; Lii.org <http://lii.org>.

3.6.1 Advantages of Subject Gateways

1. They skip sites that are no longer available most of the times.
2. They locate substantial and relevant materials.
3. They make it easier to locate a topic.

3.6.2 Disadvantages of Subject Gateways

1. They cover smaller information on the web.
2. They are unlikely to list new sites
3. They depend on the amount of human input available for maintenance
4. They do not offer clear organization and categorization of subjects.

Self-Assessment Exercise 3.6

List four disadvantages of subject gateways.

4.0 CONCLUSION

The internet provides a wide range of information that it has become a goldmine for researchers. Understanding the nature of information on the internet, and how to adapt them for one's use is of vital importance in making progress in one's research work.

5.0 SUMMARY

In this unit, you have been made to understand the meaning of the internet. You have also been exposed to the advantages and disadvantages associated with using the internet for your research. The unit has also exposed you to the various options available to you as you conduct your internet research.

6.0 TUTOR-MARKED ASSIGNMENTS

1. List the problems associated with researching on the internet.
2. Differentiate between the search engines and the metasearch engines.
3. List the advantages of the Subject Gateways.

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UNIT 4: THE USE OF LIBRARY IN RESEARCH**Contents**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 The Meaning of Library
 - 3.2 Types of Libraries
 - 3.3 The Importance of Library in Research
 - 3.4 Arrangement of Books in the Library
- 4.0 Conclusion
- 5.0 Tutor Marked Assignment
- 6.0 Reference/ Further Reading

1.0 INTRODUCTION

The library is indispensable in any form of research especially as it concerns review of literature. Books and different sources are found in the library. The main reason for research is the quest for knowledge. Men and women, adult and children all desire to know one thing or the other. As they do so, they search for books which are found in abundance in the library. In the words of Nwogwugwu (2001), the purpose of research sometimes is to bring solutions to educational, social, political, and economic problems. Sometimes, the purpose is to add to man's store of knowledge or to expose issues as they are. The main thrust of this unit, therefore, is to explore the various ways the library is used for research purposes.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- define library
- list and explain the types of library
- list and explain the usefulness of the library in research.

3.0 MAIN CONTENTS**3.1 The Meaning of Library**

A library is a place where resourcefully selected and acquired books and non-book materials are housed, meticulously and orderly arranged to make for easy location, retrieval and use. A library is also a collection of records of superior minds in different formats and languages, preserved, organized, and interpreted to address broad and different needs of individuals for facts, knowledge, and leisure. According to Wikipedia, the free Encyclopaedia (2006), a library is a collection of sources, resources, and services, and the structure in which it is housed. It is organized for use and maintained by a public body, an institution, or a private individual.

In a more traditional sense, a library is a collection of books. In libraries, there are usually books on different disciplines stocked in shelves. These books include those from the arts/ humanities, natural sciences, social sciences, engineering, etc. There are also periodicals, dictionaries, reference materials, etc. Library, in this sense, refers to a collection of books. In yet another sense, a library can mean the building that houses such collections. It is usually common to hear one say “I want to go to the library”. Different universities in the world as well as secondary schools have their libraries. Nursery and primary schools are not left out. Most books in the libraries are consulted by researchers who cannot afford to purchase expensive collections themselves or who require professional assistance for their research.

It is pertinent to note from the above definitions that the library is indispensable in a quest for knowledge. Information put down on paper by superior minds who may be living or dead are stored in the library for generations yet unborn.

The basic functions of the libraries are to collect, process, store, preserve, evaluate, and disseminate/ communicate the world’s recorded knowledge. As a researcher, you need past knowledge, which is available from the libraries in various forms of documents.

The need for research is felt in this present time as the quest for knowledge increases. There is a continuous growth in the number of academic institutions and the research activities of these institutions in various disciplines have continued to grow. This according to Nwogwugwu (2001), is because of the multi-disciplinary researches and ‘seepage’ of literature into various other subject publications and the fluid nature of academic disciplines being pursued in universities today.

Rao (1993) claims that, if there is no information provided from the library or the ones provided are inadequate, the researcher will be faced with the following problems:

- The researcher does the research without information and works, perhaps, less productively for the same number of research hours; or
- The researcher has to spend more of his research time in locating and obtaining information for himself with consequent reduction in output; and or
- The researcher has to work for longer hours to collect information for himself.

From the foregoing statements, it could be affirmed that the researcher will end up achieving little or nothing and thus become frustrated if there is no library.

Self-Assessment Exercise 3.1

What is library?

3.2 Types of Libraries

There are different types of libraries where you can go for your research. They include: academic libraries, public libraries, research libraries, and special libraries.

Academic Libraries

These libraries are located on the campuses of colleges and universities and serve primarily the students and faculty of such institution as well as other academic institutions. Some academic libraries, especially those public institutions, are accessible to members of the general public in whole or in part. Academic libraries support the teaching and research programmes of their institutions. In academic libraries, students are issued with library cards that enable them to gain access into the library. They are also issued with borrower's cards, which enable them to borrow books for a period of two weeks, depending on the institution. Examples of such academic libraries are The National Open University of Nigeria Libraries found in different states of the country; Festus Aghagbo Nwako Digital Library of Nnamdi Azikiwe University, Awka; The University of Nigeria Nsukka Digital Library, to mention but a few. You should visit any of the libraries in your study centre for your research.

Public Libraries or Public Lending Libraries

These libraries provide services to the general public and make, at least, some of their books available for borrowing so that readers may use them over a period of days or weeks. These types of libraries issue library cards to community members wishing to borrow books. Public libraries attempt to meet a wide variety of readers' needs. In addition to traditional reading materials, their collections contain social services information, reference works, phonograph records and CDs, and recreational books and films. Many public libraries sponsor lectures, group discussions, dramatic, musical or film presentations and exhibitions. Public libraries also provide reading machines and audiotapes for blind people and large-print books for visually impaired people. You can look out for any public library around you for your research.

Research Libraries

These libraries are intended for supporting scholarly research. They maintain permanent collections and attempt to provide access to all necessary materials. Research libraries are most often academic libraries or national libraries. Research libraries are usually supported by private endowments and contributions and mainly serve the needs of scholars. Because such collections contain many rare and valuable materials, the use is almost confined within the library building. Such libraries often publish scholarly studies of materials in their collections, sponsor lectures, and arrange exhibitions of their most important holdings. Such libraries can be of immense help in your research.

Special Libraries

All other libraries fall into this category. Many private businesses and public organizations, including hospitals, museums, research laboratories, law firms, and many government departments and agencies maintain their own libraries for the use of their employees in doing specialized research related to their work. Special libraries may or may not be accessible to some identified parts of the general public. Branches of a large academic or research libraries dealing with particular subjects are also usually called 'special libraries'. They are generally associated with one or more academic departments. You can find out and access the library in your work place.

These libraries will be of immense benefit to you, no matter how small each may be. Visit as many libraries as possible for a worthwhile research.

Self-Assessment Exercise 3.2

Distinguish between academic libraries and special libraries.

3.3 The Importance of Libraries in Research

The library helps the researcher in the following ways:

1. The library serves as an eye-opener to the researcher.

In carrying out your research, the library helps you, be aware of the following:

- What is happening currently in the area of your research elsewhere.
- Who else is doing the research in the same field (the address and the stages of the research and also the findings or result which might be useful to you).
- Contact with others who are doing research in similar subjects will help in broadening your knowledge of the literature, in obtaining advice about the techniques and methods, and in gaining access to particular facility or a suitable skill which may be of great assistance.

2. The library helps the researcher in selecting and defining research topics.

Before embarking on research, you must have a topic in mind for the purpose of the research. The library helps you to sharpen or narrow down the topic if it is too vague, broad, or general. The library, with the help of the librarian, provides you with either some core articles or encyclopaedic essays to comprehend the broad scope of the topic and helps to limit the focus.

3. The library helps the researcher in knowing the availability of literature in his research area.

Since the library supplies you with enough books, magazines, and articles, you can seek the library's help in knowing the availability and accessibility of required literature in your work.

4. The library helps in initiating research.

In the libraries, there are subject lists either in the form of catalogues or bibliographies and reviews, articles, abstracts, and indexes. These help to initiate research and give the researcher direction for a successful and worthwhile research.

5. The library helps to avoid duplication of research.

This role of the library is very important because there is no point delving into a research that has already been carried out by a particular researcher at a particular point in time. The library helps you to confirm whether or not the same research has been investigated by others elsewhere. For instance, if a particular researcher carried out a research on 'The Development of Christianity in the Tiv Society' in 2008 and another researcher takes up the same topic the next year unmindful

of or ignoring such completed research, it will ultimately lead to wastage of the resources and energy of both the researcher and society. The researcher can depend on the library in avoiding duplication of research.

6. Reference material in the library helps the researcher.

The reference section is of immense help for the purpose of research work. The reference materials include encyclopaedias, dictionaries, journals, periodicals, handbook; yearbook, etc. Encyclopaedias contain general summary articles about subjects. Some articles also include a short bibliography of books and/or articles you may want to look at. There are general encyclopaedias like: *Encyclopaedia Britannica* and *Encyclopaedia Americana*. There are also specialized encyclopaedias, like: *The Encyclopaedia of Language*, *The Encyclopaedia of Philosophy*, *The Encyclopaedia of Religion and Ethics*, *The Encyclopaedia of World Art*, *The International Encyclopaedia of Science and Technology*, etc.

During your research in the library, you may come across different words whose meanings you do not know. In this case, what do you do? You should pick a **dictionary**. There are general dictionaries like: *Webster's International Dictionary*, *Oxford English Dictionary*, *Longman Dictionary of Contemporary English*, etc. There are also specialized dictionaries, like: *The Dictionary of Phrasal Verbs*, *Dictionary of Idioms*, *A Dictionary of the Social Sciences*, *Encyclopaedic Dictionary of Mathematics*, *Dictionary of American History*, *Oxford Classical Dictionary*, *Theological Dictionary of the New Testament*, *Funk & Wagnall's Standard Dictionary of Folklore, Mythology and Legend*, *Dictionary of Religion* etc.

Periodicals: The word periodical refers to a publication that is issued periodically or at regular recurring intervals, once a year, once a month, or once a week. Magazines, journals, and newspapers are all periodicals. In academic circles, there are popular periodicals and scholarly periodicals. Popular periodicals are written for the general public. They include the newspapers and magazines. Information useful in research can be found in newspapers and magazines. In reputable and functional libraries, newspapers and magazines are supplied on daily basis. This, however, helps the researchers to get whatever information they want for their research work. Scholarly periodicals are often called journals. They contain reviews, essays, and research reports written by experts and scholars in a field. There are so many journals in different fields. Examples of such journals are: *The English Language Teaching Journal*, *The International Journal of the English Language*, *Journal of Marketing*, *American Journal of Christian Theology*, *Journal of Political Economy*, *Journal of Communication*, *American Political Science Review*, *British Journal of Sociology*, to mention but a few.

These journals are very essential in research. In the journals, the researchers rub mind with experts who have written extensively on various areas of interest in their discipline. As a researcher, do not relent in making use of various journals in our university library or in any other libraries. You will undoubtedly find them very useful.

7. The library helps the researcher in providing information regarding certain bodies/ organizations concerned with the subject field of the researcher.
8. The Library also keeps users abreast of the latest information in their areas of interest through current awareness services.

9. The library provides conducive space/reading environment: Academic libraries usually have good space and suitable building and surroundings for storing various kinds of documents suitable for research. They also provide proper lighting, ventilation, and conducive noiseless reading environment needed for research.

Self-Assessment Exercise 3.3

Discuss five reasons why the library is important.

3.4 Other Library Services

The academic library offers other various services required by its users. Nwogwugwu (2001) enumerates the following services that help researchers to carry out worthwhile and hitch-free research in libraries. They are as follows:

- **Bibliographical Services:** This relates to compilation of bibliographies relevant to the topic of research.
- **Literature Search Services:** The library searches data from various data bases depending on the availability of facilities.
- **Current Awareness Services and SDI Services:** This is to keep researchers up to date with the current advances in the subject field of the researchers by providing the list of articles or content pages of journals and newspapers recently received, new accession list, in-house indexing services, etc.
- **Document Delivery Services:** This has to do with delivering physical document to the user either from the library collection or from other sources.
- **Reference and Information Services:** This has to do with providing both short range, that is, providing specific pieces of information, and long-range reference services by searching for current backlog of literature.
- **Translation Services:** This is done by libraries on behalf of users either to obtain the required translation copies of the foreign language documents from some international translation centres, such as the British Library Document Supply Centre (BLDSC), London National Translation Centre Chicago, etc.
- **Referral Services:** A method of service to the scholars by directing them to the most likely sources, like institutions, libraries or individuals who possess the expertise, information/documents when they are not in stock of the library of one's institution and cannot be obtained by inter library loan.

- **Reference Services:** The reference work for a librarian is the process of helping users find information; it is one of the professional public services demanding skill in communication, familiarity with information sources, and a wide general knowledge. The reference librarian helps researchers whenever they have difficulties in consulting books in the library. As you go to libraries for your research, endeavour to visit the reference librarian because his services will be of immense help to you.

Self-Assessment Exercise 3.4

What five other functions do libraries perform?

4.0 CONCLUSION

The library plays an indispensable role in research. Research work is very interesting for a resounding thesis or dissertation. If your library does not have a specific book, journal, or magazines you need for your research work, do not be discouraged. Visit other libraries in your town or city. Do not relent in your bid to reach the zenith. Visit libraries and rub mind with great men and women who have put their thoughts and wits on the pages of books and you will see yourself making great marks in your field. In sum, as you grow academically, you should form the habit of buying books and gradually building your own library.

Tutor-Marked Assignment

1. What is a library?
2. List and explain the types of libraries known to you.
3. List and explain the usefulness of library in research.

Reference/ Further Reading

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MODULE 3: RESEARCH FIELD AND RESEARCH ETHICS

Unit 1	Methods of Data Collection
Unit 2	Population Sampling
Unit 3	Case Study
Unit 4	Research Ethics
Unit 5	Plagiarism

UNIT 1 METHODS OF DATA COLLECTION**CONTENTS**

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3.5.1 Participant Observation

3.5.2 Non-participant Observation

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3.6.3 Sampling

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3.6.6 Exiting

3.7 Interview Method

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3.9 Questionnaire Method

3.9.1 Advantages of Questionnaire Method

3.9.2 Disadvantages of Questionnaire Method

3.10 Content of the Questionnaire

1.0 INTRODUCTION

To progress in our research, we need information. The information that a researcher needs to progress in his research does not fly in the air. People and things are repositories of the data that

a researcher needs to progress in his research. How to access the data that the people and things possess is one of the major challenges of a researcher. He needs to learn the various ways of interacting with these repositories of data if he intends to be successful with his research.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- i. Define data collection.
- ii. Know the various methods of data collection.
- iii. Determine the method of data collection that is relevant to your specific research.

3.0 MAIN CONTENT

3.1 Meaning of Data Collection

Data simply refers to information. Data collection in research refers to the process of gathering information for research purposes. A researcher is in pursuit of knowledge. Acquisition of knowledge in research is preceded by personal opinions and unsubstantiated mass of assumption. These unsubstantiated mass of assumption and personal opinions are what we refer to as hypotheses. In some cases, the hypotheses have been discovered to conform to reality (the way things are). In other instances, they have been shown to be false representation of reality. In data collection, a researcher seeks information with which to validate or invalidate the hypotheses he put up, as well as to answer the research questions he raised. A researcher who collects data in order to demonstrate the truthfulness or falsity of his hypotheses must collect his data with an open mind. He should not close his eyes to the data which does not support his position or which falsify his position in an outright manner.

A researcher who collects data for his research will do it through any of the following means: *observation method, interview method, and questionnaire method.*

Self-Assessment Exercise 3.1

Why do you consider data collection important in research

3.2 Observation Method

The observation method involves watching, recording and analyzing the behaviour of research objects in a systematic manner. The method is informed by the belief that objects or people in a particular environment are influenced by that environment to behave in a certain manner. Thus, the observation method is mostly suited for collecting data in the behavioural sciences where researchers are interested in studying and quantifying human behaviour. It provides direct and immediate knowledge about the object of observation as the researcher does not depend on a third party for his data. The observation method is concerned with events of the present, that is how an object behaves at the moment of the observation, not how they behaved in the past or will behave in the future. Scientific observation captures the behaviour of peoples and things. For instance, a researcher who adopts the observation method in determining the frequency of lateness between male and female students of a particular school knows that she does not have to

ask the teacher to supply her with his attendance register. She comes to the school and takes time to observe the students as they come. This may not be a one off exercise, as one may be expected to observe the students for many days before arriving at a conclusion.

The researcher using the observation method takes time to plan and organize his activities in order to observe the object of his research. While planning to observe any objects or persons, the researcher tries to observe the objects or persons in their own environment. He takes time to record what these persons or objects do. This recording can be done with the help of memory, pen and paper, electronic audio or video appliances. Electronic video recording is the best way to record observations, especially when it cannot influence behaviour. This recommendation stems from the observation that memory fades, that it is difficult to write down every details during the observation, and that electronic audio appliances pose the problem of identity, of deciphering who has which voice.

Self-Assessment Exercise 3.2

Which type of study is the observation method suited for?

3.3 Advantages of Observation Method

The following are noted as some of the advantages of the observation method in data collection.

1. It eliminates subjective bias, as it gives no room for the researcher's earlier belief about the objects of observation.
2. The observation method provides the researcher with a wider understanding of the research problems which he lacked while he designed the study.
3. It does not depend on willingness, or otherwise of the respondents to respond. What this means is that the respondents cannot influence the outcome of the observation in ways that do not relate to true situations.
4. The observation method provides rich and detailed data, as objects are studied in their natural environments.

Self-Assessment Exercise 3.3

List three advantages of the observation method.

3.4 Disadvantages of the Observation Method

Despite the points we listed above, the observation method has some limitations. They include the following:

1. It is time-consuming. This is because, to achieve accurate result from the research, observations have to take so many times before conclusion can be drawn. Also, the recording, transcribing and interpreting processes involved in the method take a great amount of time.
2. It is expensive, especially when the problem under study demands a large number of observers, extensive travelling and special equipment.

3. It suffers from the problem of reactivity, as knowledge that they are being observed may influence the behaviour of the objects of study

Self-Assessment Exercise 3.4

List two disadvantages of observation method.

3.5 Types of Observation Method

The observation method can be classified into: participant observation, non-participant observation, disguised observation, uncontrolled observation, and controlled observation.

3.5.1 Participant Observation

In this style of observation, the observer makes himself a member of the group he is observing. He lives the life of the group he is observing and is able to experience what they experience. This has the advantage of allowing the researcher to observe the natural behaviour of the objects of his study. However, there is the danger of the researcher becoming emotionally involved with the group that he may lose objectivity that is necessary for a successful research. Again, participant observation also raises the ethical question about whether the observer is justified if he commits crime with the group he is observing.

3.5.2 Non-participant Observation

Here the researcher does not become a member of the group he is observing. He does not engage in the same activities with them. Rather, he stands away and observes them as a third party. The advantage is that there is no danger of the researcher becoming emotionally attached with the group. He presents facts as they appear to him. However, the participant may be limited to only things he can hear and see. The faculties of the other senses that are necessary in observation may be too limited here.

3.5.3 Disguised Observation

Under disguised observation, the researcher does his job in such a way that the group he is observing does not know about his presence. The researcher is more likely to get the true picture of things as the group members will not be affected by his presence to modify their behaviour.

3.5.4 Uncontrolled Observation

An observation is said to be uncontrolled when it takes place in the natural environment of the group being observed. The researcher wants to acquire spontaneous response from the group under observation.

3.5.5 Controlled Observation

An observation is said to be controlled when it does not take place in a natural environment of the group. The researcher creates an artificial environment, and tries as much as possible to make it imitate a natural environment.

Self Assessment Exercise 3.5

Which two styles of observation do you favour? Give reasons for your choice.

3.6 Stages of the Observation Method

Tayie(2005) identifies six stages of observation. They include: choosing the research site, gaining access, sampling, collecting data, analyzing data, and exiting.

3.6.1 Choosing the Research Site

This is the first step in the observation. The researcher has to take so many things into consideration, while choosing a site. Taking note of the nature of the research he has to consider location where he can find objects of his research, and where his instruments of observation can perform optimally. Tayie(2005) advises that a major factor in choosing a research site is to make sure that the site is permanent and stable enough to support long time engagement of the research. It is not always easy to ensure this, thus, a researcher should select up to three or four sites and watch them closely. At the end, he picks the one that best satisfies his requirements.

3.6.2 Gaining Access

Your research may never take off unless you gain access to the site you have selected for your research. Experience has shown that it is not always easy to gain access to one's choosing site. Thus, a researcher must understand that one of his major challenges is to gain access to his selected site. Gaining access into a public place (airports, stadium, mosque, etc.) is easier, while restricted places (den of robbers) rarely offer access to non-members. Generally, a researcher needs to develop a human relation and communication skills to be able to have access to his chosen site. He may need to befriend a member of the group who will introduce him to the larger group, and he must assure members of his good intention.

3.6.3 Sampling

A researcher always seeks for constant behaviour that can be generalized for the whole group. It is not possible for him to sample the behaviour of all the people in society. He must decide which type of people as well as number of people that will take part in his research. This must be a careful choice because what will be generalized later will be the behaviour of these people. Taking note of the nature of his research, the researcher must decide on his own the amount of sampling that is needed. When he decides on this, he goes on to take the needed sample.

3.6.4 Collecting Data

The next step in the process is the collection of data. The observer collects data made available by his samples. Pen and paper as well as audio and video recording gadgets are the major instruments of data collection, though each of them has its own shortcomings. As much as it can be done, and as much as memory can permit, taking mental note affords the best option in data collection, as the objects of observation are not distracted by either a camera or aggressive note taking.

3.6.5 Analyzing Data

This is a major step in observation. A researcher wants to understand the behaviour of subjects and the relationship between one subject and another. Analyzing data is the surest way to ensure this. To help him in his analysis, the researcher tries to separate his objects of study, names them and files them according to the characters they exhibit.

3.6.6 Exiting

This is the last step in the observation method. The observation ends when the researcher is able to depart from the site of his observation and return to his base prior to his research. Leaving a group may be as difficult as trying to access the group. This could arise from many reasons. One, the researcher may have developed some emotional attachment with group members that he finds it difficult to separate from them. Two, in a case where the researcher did not make himself known as a researcher, trying to leave the group will also pose some difficulties as this may give him away as an outsider to the group. In other instances, where the group members have come to rely on the researcher for certain things, his departure may upset the group. As a result of these the researcher must make sure that he departs the site in such a way that there is no danger for him or for the group members.

Self-Assessment Exercise 3.6

Discuss the six stages of observation method.

3.7 Interview Method

The interview method of data collection has assumed a central position in research. Savin-Baden and Major (2010) hold that the importance attached to interview as a method of research stems from the belief that “truths held by individuals need to be uncovered and unpacked in order to shed light on multiple, and often competing, realities.” Hence, the realization that interview is a major way of accessing some of the knowledge possessed by individuals accounts for its adoption as a research method.

Data is obtained in the interview method through question and answer, or discussion. Here, the researcher poses some questions (oral or written) to persons who answer them, the respondents or interviewees. The researcher making use of the interview method has a problem of deciding who to interview for the information he needs. To solve this, he should make a list of people he knows who can give him contact to people he can interview. After establishing positive contact with his potential interviewee, the researcher gets ready materials that are necessary for the interview.

For the most part, the materials for the interview may depend on how the writer wants to record the interview. If he wants to take note, he needs a notebook and a pen (two or more pens are recommended). Taking note during interviews allows the researcher to concentrate on the key points of the interview. On the negative side, taking note during interview can also distract the interviewee. Blaxter et al (2006) argue that, whenever you put pen to paper in the course of the interview, it may make your interviewee think that he has made a great point. Conversely, he may think that he is making unimportant points whenever you do not put pen to paper. This will

influence the flow of the interview, and, in some cases, it may affect the truthfulness of the information, as the interviewee may sacrifice facts to impress the interviewer. The researcher, on the other hand, may decide to electronically record the interview. In this sense, he needs an audio or digital recorder. This affords you the advantage of recording the details of the interview verbatim and of concentrating entirely on the interview. However, recording interview has the tendency to make the interviewee anxious that he fails to reveal confidential information. There is also the tendency for the tape recorder to malfunction in the course of the interview. Therefore, even as the interviewer uses the tape recorder, it is also advisable that he takes note of the essential issues of the interview.

Self-Assessment Exercise 3.7

Discuss the gains and difficulties involved in note taking and recording during an interview.

3.8 Types of Interview

There are basically two ways of conducting interview for research purposes. They include: personal interviews and telephone interviews.

3.8.1 Personal Interview

In personal interview, the researcher assumes the role of the interviewer and engages the interviewee in a face-to-face encounter, asking him questions about his study interest and recording his views.

Kothari (2004) lists the **advantages** of the personal interview to include:

1. It generates more and in-depth information.
2. It offers the researcher the flexibility to restructure his questions as the demand calls.
3. It can also avail the interviewer personal knowledge about the interviewee.
4. The interviewer can always control which persons will answer the questions.

Apart from the advantages listed, Kothari (2004) also listed certain **disadvantages** of personal interview method. They include:

1. It is a very expensive method, especially when large and widely spread geographical sample is taken.
2. There remains the headache of supervision and control of interviewers.
3. Certain types of respondents, such as important officials or executives or people in high income groups, may not be easily approachable under this method and to that extent the data may prove inadequate.
4. The presence of the interviewer on the spot may over-stimulate the respondent, sometimes even to the extent that he may give imaginary information just to make the interview interesting.
5. Under the interview method, the organization required for selecting, training and supervising the field-staff is more complex with formidable problems.

3.8.2 Telephone Interview

Here, the interview is conducted using telephone conversation. Some of the **advantages** of telephone interview, as listed by Kothari (2004) include:

1. It is more flexible in comparison to the mailing method.
2. It is faster than other methods, that is, it is a quick way of obtaining information.
3. It is cheaper than personal interviewing method; here the cost per response is relatively low.
4. Recall is easy; call-backs are simple and economical.
5. There is a higher rate of response than what we have in mailing method; the non-response is generally very low.
6. Replies can be recorded without causing embarrassment to respondents.
7. The interviewer can explain requirements more easily.
8. At times, access can be gained to respondents who otherwise cannot be contacted for one reason or the other.
9. No field staff is required.

Some **demerits** of the telephone method include:

1. Little time is given to respondents for considered answers; the interview period is not likely to exceed five minutes in most cases.
2. Surveys are restricted to respondents who have telephone facilities.
3. Extensive geographical coverage may get restricted by cost considerations.
4. It is not suitable for intensive surveys, where comprehensive answers are required to various questions.
5. Questions have to be short and to the point; probes are difficult to handle.

Self-Assessment exercise 3.8

List the two types of interview method.

3.9 Questionnaire Method

Questionnaire has to do with formulating precise written questions for those whose opinions or experiences you are interested in. The researcher composes the questions and sends them out through mails to people who give answers to them and return their answers to the researcher. The questionnaire method is closely related to the interview method we examined earlier. The major difference between them is that, in the interview method the questions and answers are provided orally, while, in the questionnaire method, the questions and answers are written down.

3.9.1 Advantages of the Questionnaire Method

Kothari (2004) lists some of the advantages of the questionnaire method to include:

1. There is low cost even when the universe is large and is widely spread geographically.

2. It is free from the bias of the interviewer; answers are in respondents' own words.
3. Respondents have adequate time to give well-thought out answers.
4. Respondents who are not easily approachable can also be reached conveniently.
5. Large samples can be made use of and, thus, the results can be made more dependable and reliable.

3.9.2 Disadvantages of the Questionnaire Method

1. Low rate of return of the duly filled questionnaire; bias due to no-response is often indeterminate.
2. It can be used only when respondents are educated and cooperating.
3. The control over questionnaire may be lost once it is sent.
4. There is inbuilt inflexibility because of the difficulty of amending the approach once copies of the questionnaire have been dispatched.
5. There is also the possibility of ambiguous replies or omission of replies altogether to certain questions; interpretation of omissions is difficult.
6. It is difficult to know whether willing respondents are truly representative.
7. This method is likely to be the slowest of all.

Self-Assessment Exercise 3.9

In what way does the questionnaire method differ from the interview method?

3.10 Content of the Questionnaire

According to Nwana (2010) a good sample of the questionnaire should contain the following items.

1. *Title*: The title states what the study is all about
2. *Biographical Information*: Here, the person responding to the questionnaire gives information about himself. Such information that may be needed include: the full name of the respondent, name of school, village/town/city; sex; date of birth; local government area/state; the day's date; occupation.
3. *Response Rubric*: This is the advice which the researcher gives the respondents about how to complete the questionnaire.
4. *The Questions*: These are the questions that the respondents respond to. They must be clearly stated and separated from one another.
5. *Return Mail Instructions*: The researcher specifies where the completed questionnaire can be returned. He gives his name and address clearly.

Self-Assessment Exercise 3.10

List the five contents of the questionnaire

4.0 CONCLUSION

A researcher is a searcher of information. Thus, he can only progress in his research work if he discovers enough data. At the end of the research, what the researcher shows as the fruit of his research is the information he has been able to gather. This shows the pride of place that data collection occupies in a successful research work.

5.0 SUMMARY

You have been guided through the rudiments of data collection. You have learnt the various ways to gather information for your research. Apart from learning these methods, you have also learnt the various advantages and disadvantages associated with each method.

6.0 TUTOR-MARKED ASSIGNMENTS

1. Show your understanding of the observation method of data collection.
2. Distinguish between non-participant observation and disguised observation.
3. Show the advantages and disadvantages of the two types of the interview method.
4. List the advantages and disadvantages of the questionnaire method.

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UNIT 2**POPULATION SAMPLING****CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Meaning of Population
 - 3.2 Classification of Population
 - 3.3 Sampling
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1.0 INTRODUCTION

Our research is often about people and things. We seek information about things and people so that we can understand them. A thorough understanding of the behavioural patterns of people and things will help in a large measure in our effort to control them. Indeed, the whole edifice of modern science is about quest to control the world. The vastness of the world will, at first, present the attempt to control the world as an impossible task. However, this has been surmounted by the tool of classification with which it is now possible to group together entities that share the same characteristics. Repeated experiments have shown that a study of some of such grouped entities can be generalized, with a large measure of accuracy, for the whole group or class. This unit is concerned with the methods of studying some portions of the population in order to generalize the study for the whole population.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- i. define population
- ii. define sampling
- iii. distinguish from sampling and census

- iv. articulate the importance of sampling
- v. know the method of sampling technique that is suited to your study
- vi. engage in a successful sampling of a population.

3.0 MAIN CONTENT

3.1 Meaning of Population

Most empirical research works are targeted at some specific individuals or objects as sources of information. These specific individuals or objects are what we regard as *research population*. By way of formal definition, population, as used in research, refers to a physical collection of anything: people, animal, trees, and so on about whom the researcher seeks information. Kerlinger (1981) expresses the same definition in a different manner. He defines population as “all members of any well-defined class of people, events or objects”. Some researchers prefer to call population *universe*. Thus, the two terms, *population* and *universe*, can be used interchangeably to mean the same thing in research. A research involving the study of a population begins with the researcher’s identification of the specific population of the study. You identify a population by mapping out the specific area (geography) where your targets are located, then you state the group of people or objects (targets) you wish to study. For example, identifying the population of a research that involves a study of Nigerian Catholics first begins with mapping out the area (geography) that is called Nigeria. After that the researcher has to map out what he means by a Catholic (target): whether a catholic means one who professes allegiance to pope. This involves carefulness so that the researcher does not fall into the temptation of including in the research what should not be there. Identification of population is followed by stating aspects or characteristics (variables) of the group that the study is interested in. This could be their attitude towards the rosary. Once these factors are taken care of, the researcher makes effort to limit his study on them, then he goes ahead to measure or observe the data for the study which comprise each individual of the group. The measurement or observation is recorded and it is based on them that conclusion is drawn.

Self-Assessment Exercise 3.1

Explain how you can identify a research population.

3.2 Classification of Population

Ifeakor(2009) lists different classifications of population. They include target population, accessible population, finite population, infinite population, existent population and hypothetical population.

1. **Target Population:** Target population includes all the members of the group under study. In our example, all the Nigerian traders comprise the target population.
2. **Accessible Population:** This consists of all the members of the target group that are within the reach of the researcher. In our example with Nigerian traders, a researcher may not be able to reach the whole of about one hundred million traders that are scattered all

over Nigeria, but he may be able to contact about five thousand of them in Lagos and Anambra States. The contacted five thousand constitute the accessible population.

3. **Finite Population:** A finite population is one that contains a limited number of members. Finite population is always countable and measurable.
4. **Infinite Population:** This type of population has infinite (limitless) number of members. It is always uncountable or immeasurable. For instance, determining the volume of water in the Atlantic Ocean is quite impossible (immeasurable) while determining the number of the sand in an acre of land is quite impracticable (uncountable).
5. **Existent Population:** This comprises the population of concrete individuals and objects within an area.
6. **Hypothetical Population:** This relates to all possible ways in which an event can materialize. For instance, a coin tossed ten times has possible number of times a head or tail could be obtained.

Self-Assessment Exercise 3.2

List five ways in which a population can be classified.

3.3 Sampling

Researchers know that it is always difficult, if not outright impossible, to cover the whole population of study, particularly when the objects of study are too large in number or too minute in appearance. However, in those cases where it is possible to contact all the members of a target population the researcher or researchers should not hesitate to contact all of them. If a researcher contacts all the members of his target population he is said to have undertaken a census or saturation sampling. “In practice, saturation sampling is rarely possible because of the nature of the study question, the size of the population and because of time and resource constraints” (Aston and Bowles 2003). Thus, engaging in census entails that the population to study is small; that studying the whole population is cost effective. In our example with Nigerian traders, it is impracticable for a researcher to cover all the traders within Nigerian territory. Time, personnel and cost are practical impediments to this. In order to overcome these difficulties, a researcher often undertakes to measure or observe a small portion of the total population and generalize his conclusion for the whole population on the information obtained from this small portion of the population. This act of targeting small portion of the population in order to generalize conclusion for the whole population is what we call *sampling*. In sampling, researchers seek to identify people or objects that will answer their research questions. Singh (2006) asserts that “the concept of sampling has been introduced with a view to making the research findings economical and accurate.” However, you must note that, when circumstances permit, the researcher should study the whole population. In cases where population is large, where there is limited time for the study or limited resources (human and material) the researcher should not hesitate to sample the population.

Sampling is guided by inductive reasoning or induction. In inductive reasoning, as developed by Francis Bacon, thinking proceeds from the specific to the general. “The sample observation is the specific situation which is applied to the population which represents the general situation. In research, the measure of a sample is known as statistics and, when inference is made from sample to the general population, we regard it as *statistical inference*. Statistical inference is important in research as the primary concern of every researcher, especially in quantitative research, is to draw inferences or generalizations based on the data obtained from the sample studied. If the knowledge of the sample cannot be extended to the population, then such knowledge becomes insignificant. In other words, a sample is useful only when it is employed to draw conclusions or inferences on the population. For instance, when you read in the papers that 40% of Nigerians who drink alcohol prefer Gulder, you should not assume that the researcher has spoken to all the people who drink beer in the country. He has only spoken to some of them and used his result to generalize for all.

However, a researcher must be very careful while choosing his samples. Failure to do this will result in misleading research findings. For instance, the researcher who researched on the preference level of Gulder among beer consumers in Nigeria will make sure that his research is not restricted to areas where Gulder is the only available drink or where it is provided free of charge relative to others. This points us to a very important factor in research which emphasizes that a good research must divest itself of bias. To free one’s research of bias, one must begin by making one’s samples as objectively as possible. To ensure objectivity in selecting your samples, you should make effort not to accord any individual or groups of individual within the universe of your research preference. A very important rule in ensuring this is by allowing some level of chance or randomness in the whole process of selection. The randomness nature of the process must be in such a way that every individual within the group retains equal chance to be included and to be excluded from the sample.

Self- Assessment Exercise 3.3

- i. When is it advisable to sample your population in a research?
- ii. Distinguish between census and sampling.
- iii. What do you understand by statistical inference.
- iv. Why should a researcher exercise some caution while choosing his sample?

3.4 Issues to Consider in Choosing Your Samples

A good sampling should be able to anticipate a number of issues before they arise. In this section, we are concerned with showing the various issues that a researcher must consider before he chooses his samples.

The Nature of the Universe: A good researcher begins his research by first defining the nature of universe (target population) to be studied. He determines in advance whether this will be finite or infinite. If it is finite, the number of items to be studied can be measured. If it is infinite, the number of items (universe) cannot be determined.

The Sampling Unit: A researcher must also make a decision about the sampling unit that the research is all about. Sampling unit involves such issues like geographical areas, social unit, or individuals which the researcher chooses for his research.

Sampling Size: This relates to the number of items to study as sample of the population. It relates to taking decisions about how many individuals, objects, etc., are enough to form a sample. Determining this presents a major challenge to most researchers. Krzanowski (2007) suggests a way out of this. He advises that an appropriate sample is one which is optimum. He then goes ahead to define an optimum sample as one “that satisfies the requirements of representativeness, flexibility, efficiency and reliability.”

Budget: The amount of financial resources available for a research determines a lot about the research ranging from whether the research should be carried on at all, to the size and type of samples to consider.

Sampling Procedure: At this point, the researcher determines the sampling technique to be adopted in the research process.

Self-Assessment Exercise 3.4

Demonstrate your understanding of the following:

- a. sampling unit
- b. sampling size
- c. optimum sample?

3.5 Characteristics of a Good Sample

Krzanowski(2007) lists what should be regarded as characteristics of a good sample. According to him, a good sample should:

Be Representative: This means that no section of the population should be cut off during the selection of sample. The only way to ensure this is by eliminating all forms of bias in the selection of your sample.

Contain Less Error: The aim of sampling is to get information. This will be defeated if the information got from a sample contains many errors.

Be Cost Effective: Most researchers work with limited resources. A good sample should take care of this. It should cost less, while not endangering quality output.

Be Such that Systematic Bias can be Controlled: This will ensure objectivity of findings.

Its Result should be Applicable to the General Population: A person who chooses sampling has the general population as its target. The aim of the sampling will be defeated if the result cannot be applied to the whole population.

Self-Assessment Exercise 3.5

List four characteristics of a good sample.

3.6 Sampling Techniques

A sampling technique is a plan that specifies how elements will be drawn from the population. These techniques are categorized into two broad types, namely:

- a. Probability sampling technique
- b. Non-probability sampling techniques

3.7 Probability Sampling Technique

Probability sampling, also known as *choice sampling*, is a sampling technique in which every item in the universe has an equal chance of being included in the sample. Chance plays an important role as it determines what should be included in the sample. Items of the universe are chosen as in lottery. The advantage of probability sampling is that, if the chosen samples are randomly chosen, they have more tendency of representing the whole universe. Indeed, probability sampling is considered the best way of choosing representative samples.

3.7.1 Laws of Probability Sampling

Two laws govern probability sampling. They include: *law of statistical regularity* and *law of inertia of large sample*.

Law of Statistical Regularity: This holds that a small sample may stand as a good representative of the universe (population) if the samples are selected at random. The conclusion drawn from the sample can be generalized for the whole population.

Law of Inertia of Large Sample: This holds that a large sample is more stable and good representative as compared to small sample. The rule emphasizes that the more the sample the less the possibility of sample error.

3.7.2 Characteristics of Probability Sampling

Singh (2006) lists some of the characteristics of probability sampling to include the following:

1. In probability sampling, we refer from the sample as well as the population.
2. In probability sampling, every individual of the population has equal probability to be taken into the sample.
3. Probability sample may be representative of the population.
4. The observations (data) of the probability sample are used for the inferential purpose.
5. Inferential or parametric statistics is used for probability sample.
6. There is a risk for drawing conclusions from probability sample.

7. The probability is comprehensive. Representativeness refers to characteristic. Comprehensiveness refers to size and area.

3.7.3 Types of Probability Sampling Technique

Types of probability sampling technique include:

1. Random sampling
2. Stratified sampling
3. Systematic sampling
4. Cluster or Area sampling

1. Random Sampling

The random sampling technique is the most fundamental method of probability sampling. It is a sampling technique in which every member or element of population is given an equal chance or opportunity of being selected for the sample to be studied. Random sampling is operated by such means as the lottery method, throwing a coin, tossing a dice, blind folded selection, etc. By so doing, the researcher gives all the members of the population an equal chance of being selected for the sample.

In random sampling, the selection of one member does not affect or influence the chance of selecting any other member of the population. It also enables generalizations because it does not involve any form of bias or interest. It also fosters the possibility of equal representation, and consequently, makes for greater accuracy and objectivity.

2. Stratified Sampling

Stratification simply means dividing a population into classes or groups with each class or group having some definite characteristics. These groups are called *strata*. Therefore, stratified sampling is a method of sampling used primarily to ensure that different groups of a population are adequately represented in the sample, so that the level of estimating parameters is increased (Iwuama et al 1992:66). A researcher uses stratified sampling when certain composite characteristics of the population are known to him, and he feels that such characteristics are not likely to be adequately taken care of.

The aim of stratified sampling is to make the sample truly representative of the population. For instance, a researcher studying the population of a town can stratify (divide) it into groups, such as male and female; children, young people and old people; poor people and rich people; literate class and illiterate class; or even into civil servants, traders and artisans. From these groups, he randomly selects his sample depending on the purpose of the research.

Certain conditions are vital in the use of stratified sampling. Obasi (1991: 38) observes that the first of these conditions is the knowledge of different characteristics of a population. The second is the conviction that such characteristics may not adequately represent without stratification.

There are two types of stratified sampling technique. They are:

- a. proportional stratified sampling technique
- b. disproportional stratified sampling technique

In proportional stratified sampling, the representation of each stratum (group) of the population into the sample is based on their numerical strength in relation to the population. Disproportional stratified sampling does not take cognizance of the numerical strength of the group, thereby causing some strata (groups) to be more represented in the sample than others.

The major advantage of stratified sampling is its high degree of representativeness of the composite population characteristics. This representativeness makes it to have smaller sampling errors when compared with the simple random sampling.

Multistage approach is used to maximize the benefits of both the simple random and stratified sampling methods. This is done by first of all dividing the population into different groups (strata). The researcher then uses simple random sampling to select appropriate sizes from each stratum, ensuring that the number of elements selected from each stratum is representative of such elements in the sample as regards the proportion of that group (stratum) in the entire population.

3. Systematic Sampling Technique

In systematic sampling, the researcher is expected to possess complete knowledge about the population. These specified intervals involve selecting every **n**th element or subject from the target population. Obasi (1991:139) describes the **n**th elements to “represent or mean the desired respondents that should be included in the sample chosen in a sequential order, hence, the term, systematic”. The first **n**th element is chosen randomly and the rest then follows a systematic order.

For instance, if 100 elements are to be selected as a sample from a population of 500, the researcher first lists all the 500 members of the population in a random manner. Since the population consists of 500 elements and a sample of 100 is needed, one out of every five members (elements) of the population will be included in the sample. The researcher can draw the sample by picking, say the first name on the list, and then, since one element out of every five elements has to be chosen, he would skip the second, third, fourth and fifth names and pick the sixth. He continues in this way until the one hundred members of the sample are picked.

Note that it is not compulsory for the researcher to start picking from the first name on the list. He could start from the second or third name. The starting pointing could be balloted between the first, second and third names, the outcome of which determines the composition of the entire sample (Iwuama et al, 1992:68).

This type of sampling is easier and faster to apply. One can easily detect when the wrong element has been chosen or when a mistake occurs in the counting.

4. Cluster or Area Sampling Technique

Cluster or area sampling simply means selecting members of a sample in groups rather than individually. It involves listing the population in clusters (units or sections) and selecting respondents from representative units of the sample.

Cluster or area sampling allows the researcher to *ab initio* identify the characteristics of his research interest and areas where these characteristics exist, group the areas reflecting these characteristics and randomly selects from each of the identified groups. All elements in the groups or units selected now constitute the sample.

This type of sampling technique emphasizes the group (unit or section) and not on the individuals who make up the group. Cluster sampling is suitable when the target population is too large. Obasi (1991: 140) suggests that the members of the target population may be grouped on the basis of geographical clusters, occupational clusters, religious clusters, etc. For instance, a researcher who wants to carry out an experimental study of all Junior Secondary School 3 students will employ clusters or area sampling. He will proceed by dividing the population into sections (in this case, the population is already in sections or arms – J.S.S. 3A – J.S.S. 3F). Assuming the researcher wants only two arms or sections, he will select the two arms using random sampling. All the students in the two arms randomly selected will constitute the sample.

Cluster sampling minimizes cost and saves time, as the researcher does not need to have a list of the elements in the entire population nor does he have to travel to everywhere in the geographical area inhabited by his population. He concentrates his efforts only on those units or sections that have been selected (Nworgu, 1991:75).

The disadvantage of the cluster sampling technique is that it does not guarantee equal number of subjects or elements in each unit, and as Nworgu (1991:76) opines, such condition can increase the bias of the resultant sample. Even for the same sample size, greater sampling error is associated with this sampling plan than with the previously discussed plan, and that in some cases, it is difficult to control elements from one sample unit from mixing with elements from another sample.

Self-Assessment Exercise 3.7

List four types of probability sampling.

3.8 Non-probability Sampling Technique

In non-probability sampling, also known as deliberate sampling, items for sampling are deliberately and carefully chosen by the researcher. Every item in the population does not possess the same chance of being included in the research as the researcher's choice is supreme. Nworgu (1991:76) defines the non-probability sampling techniques as "those which do not specify the chance or probability which an element has of being included in a given sample". Under this technique, sampling is not random and, therefore, there is no basis for determining the associated sample error.

In the non-probability sampling methods, the likelihood of every member of a target population being included in the sample is not known. These sampling techniques make generalizations grossly limited. Hence, they are not used for generalizations or inferences. They are generally used to obtain a rough impression of a group of elements.

However, as suggested by Nworgu (1991:76), generalizability of non-probability samples can be achieved by the inclusion of probability sampling at some stage. But he explains that the extent to which the resultant sample will approximate to a probability sample is usually a matter of the researcher's judgement.

3.8.1 Types of Non-Probability Sampling Technique

There are three main types of non-probability sampling, namely:

1. Quota sampling
2. Purposive or Judgmental sampling
3. Accidental or Convenience sampling

1. Quota Sampling

A researcher's main aim of using quota sampling is to select those elements that have particular characteristics of interest to him, and are also accessible to him. The use of this method of sampling is to ensure that specific elements are included in the sample. Quota sampling affords the researcher the opportunity to select whatever sample he feels is a representative of the population he wants to study. For instance, consider the population of professors of Religion in Nigerian universities. The researcher, using the quota sampling technique, will simply state the number of professors of Religion from each university he wishes to include in his sample. If he chooses to use interview, he goes to each of the university chosen and interviews the desired number of professors from those he can easily reach.

Quota sampling enables the researcher to include any category of the population that is of particular interest to him. This type of sampling is quicker, easier and cost-effective. But as Nworgu (1991:77) rightly observes, the resultant sample is highly biased and cannot be said to be a random sample. Hence, results from such sample may not be generalizable to the population from which it was drawn.

2. Purposive or Judgemental Sampling Technique

This method of sampling allows the researcher to select elements that appear to him to be representative of the population he wishes to study. The criteria to be used are usually a matter of the researcher's judgement, though it is not without regard to the aim of the research. Suppose a teacher wants to know the reading habits of his students, he may decide to select 40 students known to him as suitable sample. These 40 students selected by the teacher for her investigation could be described as purposive or judgemental sampling. Obviously, such sample is not a true representative of the population.

The difference between this method of sampling and quota sampling is that, in purposive sampling, extra care is taken to select those elements that will satisfy the requirements of the

research purpose. Purposive or judgemental sampling is relatively easier and cheaper to carry out. Its demerits includes that generalizations made from it is limited. It also requires a great deal of knowledge of the characteristics of the population.

3. Accidental or Convenience Sampling Technique

A researcher may decide to use only elements within his reach for his study. Such sampling is known as *accidental or convenience sampling*. A researcher using this method selects whatever sampling units or elements that are conveniently available to him. A media reporter who interviews any person he meets along a particular road is doing accidental sampling. A researcher who gives his questionnaire to any person he sees in a particular area is also said to be doing accidental or convenience sampling.

The only merits of this sampling technique are its convenience to the researcher and its economy of time and money. Generally, it is biased and cannot serve as true representative of the population from which it was drawn.

4. Snowball Sampling

In snowball sampling, the researcher builds up a sample through informants (persons or documents) with whose help he locates his samples. Such samples will be requested to list others they know are members of the group, and then those that can be interviewed. Through a continuous updating of data, the researcher saturates his list. Snowball sampling entails chain referral and is often adopted for studying hard-to-find or hard-to-study population. Bernard (2006) gives three conditions which can qualify the classification of population as hard to find or hard to study, and therefore suitable for snowball sampling. These conditions include:

1. If it contains very few members who are scattered over a large area
2. If they are stigmatized and reclusive
3. If they are members of an elite group who do not care about your need for data.

Self-Assessment Exercise 3.8

1. Distinguish between quota sampling and snowball sampling
2. What do you consider as advantages of quota sampling
3. List and explain the three main types of probability sampling

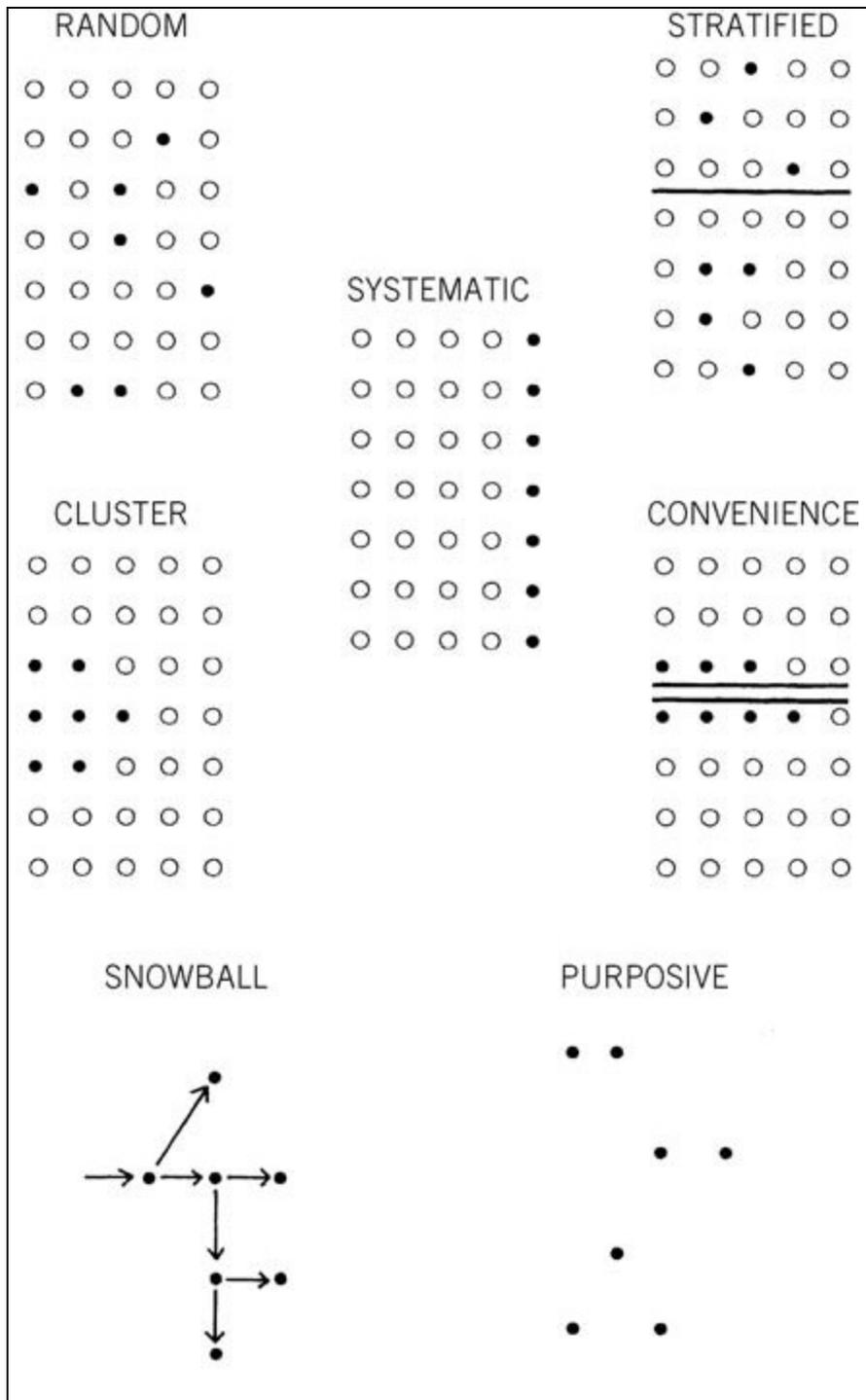


Illustration of Some Sampling Strategies: Adapted from Loraine Blaxter, Christina Hughes, and Malcolm Tight, (2006). Box 6.7

4.0 CONCLUSION

A good mastery of population sampling techniques is essential in today's research. This enables a researcher to draw inference from his research findings. If your research work entails fieldwork or behavioural study, then this unit should have helped you to go through the rigours of making a success of it.

5.0 SUMMARY

This unit has addressed the meaning of population and sampling. It has also exposed you to the various types of population and sampling, as well as the different approaches to the sampling techniques.

6.0 TUTOR-MARKED ASSIGNMENTS

1. In research, what is another name for population?
2. Distinguish between target population and accessible population.
3. Define sampling.
4. List four issues you must consider in choosing your research samples.
5. List the laws of probability sampling.
6. Distinguish between probability and non-probability sampling techniques.

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UNIT 3: CASE STUDY

Contents

- 1.0 Introduction
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 - 3.2 Phases of Case Study
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1.0 INTRODUCTION

The case study method has proved to be a time-tested method of research. It entails an in-depth study of particular cases. A researcher who wants to study varying aspect of a subject matter will find the case study a suitable method. In this unit, we shall try to lead you through the fundamentals of case study.

2.0 OBJECTIVES

At the end of this unit, you will be able to:

- i. learn the meaning of case study
- ii. know when a research is suited for the adoption of the case study method
- iii. know the limitations of case study
- iv. enumerate the advantages of case study.

3.1 Meaning of Case Study

Case study entails a thorough, detailed or in-depth study of all the manifestations, peculiarities or characteristics of a particular case or unit. It involves a systematic accumulation of information about a unit which may be a particular person, social setting, event, or group, to permit the researcher to effectively understand how it operates or functions (Berg 2001). In a case study, the researcher decides on the number of individuals he wants to study: one, two, five, hundred, etc., as there is actually no prescription on number. The aim could either be to analyse the life or function of such individuals. Since case study makes no special demand on number of units to be studied, Blaxter *et al* (2006), submit that case study is ideally suited to the needs and resources of the small-scale researcher. According to Singh (2006), case study gives subjective rather than

objective information. It gives a detailed knowledge about the phenomena and one may not be able to generalize beyond the knowledge.

Unlike population sampling, where an inference can be made from the study of a population sample for the whole population, in case study no such inference is made. Thus, case study does not assume that an individual, group, or unit is true representative of the whole population. Case study emphasises the existence of individual differences, as well as intra-individual differences. It is on account of this that prediction or conclusion that applies to the whole population cannot be drawn following the study of a unit (Singh 2006). The difficulty or impossibility of generalizing or drawing inference from a case study is one of the criticisms against the case study. Case study is not a type of methods of data collection. Rather, a case study can incorporate a number of data collection methods. Gray (2004), claims that case study is adopted in research when a “why” and ”how” questions are being asked about a contemporary set of events over which the researcher has no control.

Self-Assessment Exercise 3.1

1. Define case study.
2. Differentiate between population sampling and case study

3.2 Phases of Case Study

Yogesh (2006) identifies three phases of case study. They include: retrospective phase, prospective phase, and conspective phase.

1. Retrospective phase: This refers to the past records of the case completely, which is used in diagnosing the case.
2. Prospective phase: This refers to the present status of the case, which is helpful in understanding the case. The suggestions and remediation can be offered to the case.
3. Conspective phase: This refers to the future development and improvement of the case, which is also employed to examine the effects of the remediation given to the case.

Self-Assessment Exercise 3.2

List and explain the three phases of case study.

3.3 Types of Case Study

Basically, we distinguish between six types of case study. They include the following: group or a community case study, causal comparative case study, activity analysis, content or document analysis, a follow-up study, and trend studies (Yogesh 2006).

1. Community Case Studies

Bruce (2001) defines community as some geographically delineated unit within a larger society. A community case study entails an in-depth study, and a careful description and analysis of a group of people who occupy a particular geographical territory. This type of case study

investigates the location, appearance, prevailing economic activity, climate, historical development, patterns of living, social structure, goals and life values, social institutions within the community that meet the human needs, etc. In this type of case study, the community is the case being studied.

A researcher who undertakes to engage in a case study of a community intends to gain enough information about the way the community operates, mode of behaviour of members and sorts of social relations that members engage in.

2. Causal Comparative Studies

This sort of case study seeks to provide solution by analysing causal relationship between factors. It seeks to discover the factors that bring about the existence of a particular state of affairs.

3. Activity Analysis

This analyses the activities that an individual or individuals perform in society. Through this, it will be possible to establish whether the individuals perform the roles they are expected to perform, whether they perform more roles than they can perform or whether it is necessary to increase their roles. An activity analysis may require that you study how, for example, teachers of C.R.K. in Community Secondary School, Ndiukwuenu, teach their subject.

4. Content or Document Analysis

This type of case study involves a systematic examination of current records or documents as sources of data. In documentary analysis, the following may be used as sources of data: official records and reports, printed forms, textbooks, reference books, letters, autobiographies, diaries, pictures, films and cartoons, etc. (Yogesh 2006). The documents used for analysis in content or document analysis may or may not be published. The researcher who adopts content or document analysis must be careful to engage in thorough analysis of the documents in order to ascertain their validity and trustworthiness.

5. A Follow-up Study

This studies the impact an institution and its programmes have on those who once passed through it following the completion of their programmes. Such institutions may include schools, hospitals, prisons, etc. Yogesh (2006) discusses the advantage a follow-up study can give to an individual states that, by examining the status or seeking the opinions of former members of an institution, one may get some idea of the adequacy or inadequacy of the institute's programmes. He adds that studies of this type enable an institution to evaluate various aspects of its programme in the light of actual results.

6. Trend Study

Trend study entails the application of the descriptive method on a case study whereby the intention is to discover information about the past and the present of the case in order to predict its likely future.

Self-Assessment Exercise 3.3

- i. List four types of case study.
- ii. Which of the types of case study involves a systematic examination of current records or documents as source of data?
- iii. What is community case study?

3.4 Sources of Data in Case Study

Yin (1994) outlines six sources of data for case study. However, a good case study does not limit itself by adopting just one of these sources of data. Rather, it combines sources for effective performance. In the table that follows, we list the six sources of data for case study as enumerated by Yin.

Source of Evidence	Strengths	Weaknesses
Documentation	Stable – can be reviewed repeatedly Unobtrusive – not created as a result of the case study Exact – contains precise details of names, positions, events Broad coverage – long span of time, events and settings	Access – problems of confidentiality in many organizations Reporting bias – reflects (unknown) bias of document author
Archival records	(Same as above for documentation) Precise and quantitative	(Same as above for documentation)
Interviews	Targeted – focus directly on case study topic Insightful – provide original and illuminating data	Danger of bias due to poorly constructed questions Response bias Inaccuracies due to poor recall Reflexivity – interviewee gives what interviewer wants to hear
Direct observation	Reality – covers events in real time Contextual – covers context of events	Time-consuming and costly Narrow focus – unless broad coverage Reflexivity – event may proceed differently because it is being observed

Participant observation	(Same as for direct observation) Insightful into interpersonal behaviour and motives	(Same as for direct observation) Bias because investigator unwittingly manipulates events
Physical artefacts	Insightful into cultural features Insightful into technical operations	Selectivity – may be based upon idiosyncratic choices Availability

Source: Adapted from Yin, 1994

Self-Assessment Exercise 3.4

What are the strengths and weaknesses of participant observation and documentation as sources of case study data?

3.5 Advantages of Case Study

The following are identified as advantages of case study.

1. Since case study data are drawn from people's experience, the research that adopts it can always be trusted as one that is based on reality.
2. It allows the researcher the opportunity to explore alternative meanings and interpretations.
3. It can serve as source of data for further research.
4. Case study can drive social change.

Self-Assessment Exercise 3.5

List three advantages of case study.

3.6 Disadvantages of Case Study

Researchers have identified the following as disadvantages of case study

1. Since case study entails an in-depth study of a unit, it is a complex study. The complexity involved in it can make analysis difficult.
2. It is difficult to study case study objectively.
3. It is difficult to draw inference from a case study.
4. Participants in the case study tend to hide their weaknesses.
5. It does not contribute to new knowledge in the field studied.

Self-Assessment Exercise 3.7

List three disadvantages of case study.

4.0 CONCLUSION

The case study method is a proven method of studying individual cases. Its ability to offer an all-round and in-depth study of its subject matter makes it an attractive method for undertaking research. However, despite the advantages that case study affords to research, researchers have often found it a difficult water to navigate. The unit we have studied is a tour guide to you in your research, if you have decided to make use of the case study method.

5.0 SUMMARY

In this unit, you have learnt the meaning of case study. You have also learnt the different types of study that are suited for different types of cases. The unit has also pointed out to you the advantages as well as the disadvantages of case study. You were also shown where to access your data for case study.

6.0 TUTOR-MARKED ASSIGNMENT

1. List the six sources of data for case study.
2. Discuss the six types of case study.
3. Case study is suitable for answering which types of questions?

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UNIT 4

RESEARCH ETHICS

CONTENTS

- 7.0 Introduction
- 8.0 Objectives
- 9.0 Main Content
 - 9.1 Meaning of Ethics
 - 9.2 Ethics and Research
 - 9.3 History of Research Ethics
 - 9.4 Some Ethical Issues in Research
- 10.0 Conclusion
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1.0 INTRODUCTION

Since every research involves people, there is need to have a code of moral conduct that guides researchers in the course of doing their research. Thus, ethics in research captures such moral codes that guide researchers in the course of doing their researches. As you will discover, obedience to such codes is of immense benefit to the researcher, the participants in his research, the sponsors of his research, and the general public. In a way, it is also important to the profession of research, as it makes the continuation of business of research possible.

2.0 OBJECTIVES

At the end of this unit, you should have learnt:

- i. The meaning of ethics.
- ii. The relationship between ethics and research.
- iii. The historical circumstance that gave rise to researchers' concern with ethics.
- iv. The major ethical issues that are of concern to researchers.

3.0 MAIN CONTENTS

3.1 Meaning of Ethics

Ethics in research borders on some of the philosophical issues involved in research. Indeed, philosophers consider ethics as one of the important branches of philosophy. Ethics relates to the rules of relations that guide human interactions. Its basic concern is to recommend how we can relate to other human beings in our world. Are there specific ways suitable for relating to others? Or is any manner of behaviour permitted? Thus, ethics deals with the correct way of behaving towards other human beings. Resnik(1998) defines ethics as “standards of conduct (or social norms) that prescribe behaviour”.

Self-Assessment Exercise 3.1

What is the basic concern of ethics?

3.2 Ethics and Research

Every form of research involves people, either as instruments, respondents, population, beneficiaries or sponsors of research. Thus, since every research involves people we can also say that every research involves ethics. The researcher who engages in research work has some responsibilities in the manner he relates with the people who have anything to do with his research. Thus, to a great extent, in the course of his research the researcher is engaged with the question of moral choices: How does he relate to the people he is studying? How does he arrive at a conclusion in a difficult research terrain? He is always faced with the question of making correct choices throughout the course of his research. For instance, a researcher who is being frustrated in the process of assessing his data may be faced with making a choice between cutting corners or sticking to the right course, even if it entails not getting the data needed. If he cuts corners, he may make up data that do not exist anywhere and pass them off as results of intensive field work. Thus, ethics in research is concerned with the researcher's responsibility to stick to certain ethical standards in the course of his research activities.

Blaxter *et al* (2006), express the relationship between the researcher and ethics when they state that: "You owe a duty to yourself as a researcher, as well as to other researchers and to the subjects of and audience for your research, to exercise responsibility in the processes of data collection, analysis and dissemination". Ethical issues in research arise mainly in research designs that use the qualitative methods of data collection. Thus, a researcher that adopts such methods as surveys, interviews, questionnaire is, in one way or the other, faced with taking decisions that involve ethical issues. Indeed, most sponsors of research request that researchers undertake a study of the ethical implications of their research before embarking on the research. Greener (2008) identifies steps to ensure that one's research does not constitute an ethical harm to any person. They include:

1. Identifying stakeholders to the research (participants, students, competitors, sponsors, yourself as researcher, etc.)
2. Identifying the possible risk of your research to each of the stakeholders
3. Specifying the level of probability that these risks will be experienced by the stakeholders (unlikely, possible, probable).

A researcher who has identified the ethical implications of his research, weighs these negative aspects of these implications against the expected benefits of the research to society. If the benefits do not far outweigh the negative implications, the researcher has the obligation not to embark on such a research. The underlying factor about ethics in research is that researchers should be ethical in their research. Again, Blaxter *et al* (2006) inform us about what ethical research entails:

Ethical research involves getting the informed consent of those you are going to interview, question, observe or take materials from. It involves reaching agreements about the uses of this data, and how its analysis will be reported and disseminated. And it is about keeping to such agreements when they have been reached.

The importance which ethics has assumed in research stems from a number of factors. Resnik (1998) lists the factors as follows:

1. Researchers' interest in ethics arose because it was discovered that "ethical misconduct and ethically questionable conduct in many aspects of research, and a perceived lack of ethics in science have threatened the stability and integrity of research" (PSRCR 1992, Hilts 1996, Hedges 1997 cited in Resnik 1998).
2. Another reason why ethics has become a pressing concern is that science's increasing interdependence with business and industry has generated ethical conflicts between scientific values and business values (PSRCR 1992, Reiser 1993). These conflicts have raised concerns about the funding of science, peer, scientific openness, the ownership of knowledge, and the sharing of resources. Universities have expressed concerns about scientists who use their facilities to conduct secret research for private industry or personal economic gain (Bowie 1994).

Self-Assessment Exercise 3.2

- i. What is ethical research
- ii. List the three steps to ensure that one's research does not constitute an ethical harm to any person.

3.3. History of Research Ethics

The researchers' concern with ethics is a relatively new one. It is said to have arisen as a result of the treatment which the Nazi subjected people under the guise of biomedical research during the World War II. Nazi researchers (mainly physicians and scientists) were reported to have dismembered research participants, exposed others to virus, freezing temperatures, malaria, poison and untested drugs in the name of human experimentation (Berg 2001). These violations led to the famous Nuremberg Trials. The Trials resulted in a 10-point code, the Nuremberg Code of 1949, which insisted that researchers, henceforth, must be guided by some codes of conduct that will protect the human subjects. Henn *et al* (2006) aver that the core of Nuremberg Code still underlie many ethical codes of practice for researchers of today. They include such codes of practice as:

- i. Every research should ensure informed voluntary consent of the participant
- ii. The results should be 'for the good of society, not random and unnecessary'.
- iii. Research should be 'conducted as to avoid all unnecessary physical and mental suffering and injury'.

- iv. Participants should be allowed to terminate their involvement at any time.
- v. Researchers should terminate research if any ethical concern arises.

It must be noted that, despite the existence of the Nuremberg Code, researchers continued to engage in unethical research behaviour. This has led to the Declaration of Helsinki adopted by the WHO in 1964 which seeks to regulate the ethical conduct of medical researchers. Other research associations have adapted or modified the Nuremberg Code to take care of ethical concerns arising from their research.

Self-Assessment Exercise 3.3

- i. List three ethical codes of practice for researchers
- ii. What is the name of the 10-point code which insisted that researchers, henceforth, must be guided by some codes of conduct that will protect the human subjects?

3.4 Some Ethical Issues in Research

Confidentiality/Participant Anonymity

The two terms *confidentiality* and *anonymity* are related but they differ substantially. Henn *et al* (2006) distinguish between the two terms: “Confidentiality is an active attempt to remove from the research records any identifying features of the research participants, and anonymity means that those who participate in the research remain nameless.” A researcher is under obligation not to reveal information that is damaging to the participants in his research. It is not always the case that information that is damaging to participants is defined. The researcher has to use his sixth sense to decipher this. Indeed, a researcher should not reveal the names of participants in his research or give tips that will reveal the identity of the participant. (“The event happened in the university with its headquarters in Victoria Island” gives tips to a third person that the National Open University of Nigeria (NOUN) is being referred to.) The ideal thing is that the researcher should rather assign codes to every participant in such a way that he or she alone knows who they are. In occasions where giving names is indispensable, the researcher must obtain the consent of the participant to be named before publishing his research.

Informed Consent

The principle of informed consent demands that participants in a research must agree freely to participate in the research. It also demands that they should possess all the information that relates to their participation in the research. Such information as the duration of the research, about their right to refuse to answer any question, to withdraw at any stage of the research, if they want, and full identity of the researcher must be clearly communicated to the participants. Some category of persons, like deranged people and children below the age of 12 are not fit to give informed consents. Any research involving their participation must be consented to by one who has their care or who is legally authorised to represent their interests. The SRA, cited by Henn *et al* (2006) suggests that the following points are those that ought to be communicated to potential research participants to gain their informed consent:

- i. The purpose of the study, its policy implications, and so on,
- ii. The identity of the funder(s),
- iii. The anticipated use of the data and the form of publication that may result,
- iv. The identity of the interviewer/experimenter and their organisational base,
- v. How the individual was chosen, for example the sampling method used,
- vi. What the individual's role in the study will be,
- vii. Any possible harm or discomfort that may result from the research,
- viii. The degree of anonymity and confidentiality assured,
- ix. The proposed data storage arrangements, the degree of security, and so on,
- x. The procedures of the study, for example the time involved, the setting, and so on, and
- xi. Whether their participation is voluntary or compulsory:
 - If participation is compulsory, the potential consequences of non-compliance;
 - If participation is voluntary, their entitlement to withdraw consent.

Some organizations insist that informed consent must be ensured in writing. Typically, *informed consent slips* contain a written statement of potential risk and benefit and some phrases to the effect that these risks and benefits have been explained. As a rule, these slips are dated and signed by both the potential subject and the researchers or their designated representatives (Bruce 2001).

Voluntary Participation

An important ethical concern is that participants freely volunteer to participate in a research. This implies that the researcher, or any of his collaborators, does not exploit his position to coerce or manipulate people into participating in his research. Thus, participants must actively and freely volunteer to participate in the research. Coercing people and manipulating them to participate in research are two conditions that impugn on their dignity as human persons. Once any of these conditions exists, the participants are said not to have participated voluntarily. Non-voluntary participation also affects the confidence in the data generated from such participation. An example of coerced or manipulated participation arises when a student participates in a research because he or she believes that not participating will attract some punishment from his or her teacher. Again, when people are offered incentives to participate in a research, such research is simply a manipulated research.

Covert Research

Some researchers are known to have hidden their identities as researchers in the course of their research. A researcher that does this hides his presence from the participants and sits as one of them. Ethicists argue that adopting such a measure (covert research) will violate the rights of participants. There is also the argument that the researcher himself will be harmed if he is discovered by the participants. There is also the danger that the participants will commit crime, especially if they are investigating criminals, as it will entail that they will commit the crimes with them. Engaging in covert research violates other ethical codes like the informed consent and voluntary participation, since the participants' consents are not sought. Thus, the less researchers are engaged in covert research the better.

Despite the dangers associated with covert research, it is argued that some researches cannot be carried out without the researcher hiding his identity. For instance, one investigating drug peddlers, deviants, etc. cannot gain the confidence of the subjects if he announces himself as a researcher. This being the case, it will be very difficult for society to understand the life behavioural pattern of such people. It is argued that under such circumstances, the researcher is permitted to research covertly. But we must know that this raises another problem. What happens if the researcher is caught with the criminals in the process of his research? How would he convince the law enforcers that he is not one of them? Some experts have suggested that he reports his plans to research such people to the law enforcement agents before embarking on the research, and get their approval. However, a counter argument holds that doing so is tantamount to informing against one's participants and violating the principle of confidentiality and anonymity, which every participant ought to enjoy. So the dilemma remains. What does the researcher do? Berg (2001) advises that what course of action the researcher should follow depends on what he is studying, when he plans to conduct the study and what he plans to do with the conduct. The advice is that the researcher should simply be cautious.

Harm

Research can be quite harmful to individuals in many ways. Henn *et al* (2006), lists the nature of harms that can result from research to include: psychological, physical, legal and professional harms. A researcher has the responsibility to examine the harm implication of his research before embarking on it. Some research can also harm others after their publication. So the researcher guides against publishing reports that will harm other persons.

Honesty

Another demand which ethics makes of researchers is that they should be honest with their findings. An honest researcher should guide against these three factors: *fabrication*, *manipulation* and *misrepresentation*. Fabrication occurs when a researcher makes up data; manipulation occurs when a researcher alters data or results (PSRCR 1992). According to Babbage (1970), misrepresentation occurs when a researcher fails to truthfully or objectively report data or results. Three forms of misrepresentation are prominent. They include: trimming, cooking, and fudging. Trimming occurs when scientists fail to report results that do not support their hypotheses. Fudging occurs when scientists try to make results appear to be better than they really are. Scientists "cook" the data when they design tests or experiments in order to obtain results they already have good reasons to suspect will be positive or when they avoid conducting tests that are likely to yield negative results. Thus, a good researcher should not fabricate facts and figures where they do not exist.

Honesty in research demands that the researcher does not manipulate data in such a way that they suit his purposes. This requires that neither data nor result should be falsified or fabricated. The researcher must present data as he sees them. Honesty helps to engender the cooperation and trust necessary for scientific research. Researchers need to be able to trust each other, but this trust breaks down when researchers are not honest (Committee on the Conduct of Science 1994, Whitbeck 1995b cited in Resnik 1998).

Openness

A research is never meant for personal consumption. Therefore, every scientific research is meant to be shared by other members of research community. Therefore, to make one's research open to others (especially when it is completed) is one of the ethical demands made of researchers. Resnik (1998) lists some of the reasons why openness is very important in research. They include:

1. It saves knowledge from becoming dogmatic, uncritical and biased.
2. It helps to build an atmosphere of trust and cooperation among researchers.
3. It helps to advance knowledge as more progress can be gained when researchers work together rather than in isolation, when they share data, research sites and resources, and build on previous research.

Ethical Issue Box: How would you deal with these ethical issues if you encounter them in your research?

- 1 You are researching the parenting behaviour of the parents of hospitalized children. You believe that when they are left alone some parents harm their children. You have a video camera. Do you set it up and use it?
- 2 You have been granted access to an archive of rare documents of crucial importance to your research. It would save you a lot of time if you could take some of the documents home, and security is very lax. Do you 'borrow' some of the documents?
- 3 You are part of a team researching issues of sexuality and you are using email to conduct interviews. You realize that the male members of your team have greater access to men and that the female members have greater access to women. To help with validity your team decides that female researchers should interview male respondents and vice versa. You log on, but your new respondents decline to discuss issues with a member of the opposite sex. You are worried that this will endanger the research project. Do you try again, but this time change your name and pretend that you are the same sex as the respondents?
- 4 Your research has highlighted unethical practices in your organization concerning the abuse of expenses claims. Do you publish it?
- 5 You find a newsgroup on the Internet that is discussing issues central to your research. Do you 'lurk' (listen in without participating) and make use of the data?
- 6 You have been offered £1,000,000 to conduct research into GM foods. The funder is a multinational chemical company with interests in GM crops. Do you accept the funding?
- 7 You have been offered £100 to conduct research into GM foods. The funder is a local direct action group opposed to the development of GM crops. Do you accept the funding?
- 8 You find a document on the Internet that has done much of the background work for your topic. The deadline for the completion of your project has passed. Do you include the relevant detail in your dissertation but omit the reference?
- 9 Your research involves interviewing children under 5 years old. How do you ensure that they are able to give 'informed consent'?

Adapted from Box 6.3: Dealing with Ethical Issues in Blaxter *et al* (2006).

4.0 CONCLUSION

A researcher, especially a field researcher, who takes cognizance of the ethical issues treated above is bound to excel in his research. He will gain the confidence of research sponsors, participants and, above all, help to prosper the business of research. A careful obedience to them also means that the researcher does not put himself in danger in the process of carrying out his research or reporting his research findings.

5.0 SUMMARY

In this unit, we have guided you to understand the meaning of ethics, the relevance of ethics to research as well as the historical circumstances that gave rise to researchers' concern to ethics. You have also learnt the various ethical issues that pose challenges to researchers in the course of their jobs.

6.0 TUTOR-MARKED ASSIGNMENTS

1. Distinguish between confidentiality and anonymity.
2. State five points a researcher ought to communicate to his or her participants to ensure that he has their informed consent.
3. Give two conditions under which people can be said not to have participated voluntarily in a research.
4. List the dangers involved in covert research.
5. Identify four types of harm that can result from a research.
6. Give four reasons why openness is essential in research.

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UNIT 5 **PLAGIARISM**

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1.0 INTRODUCTION

Dishonesty in academic works has continued to pose serious problems to students and their teachers. Incidence of copying other people's work is on the rise, as more and more people copy earlier researches without giving credit. Not giving credit for a work is an unethical practice that is frowned at in the academic world. A student researcher does himself a world of good if he knows what plagiarism is and tries to avoid it.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- i. Know the meaning of plagiarism
- ii. Identify the various types of plagiarism
- iii. Understand the consequences of plagiarism
- iv. Learn how to avoid plagiarism.

3.0 MAIN CONTENT

3.1 Meaning of Plagiarism

Etymologically, the word "plagiarism" comes from the Latin word *plagiarus*, which means 'kidnapper'. If we want to approach the definition of plagiarism from the etymology of the word we say that it means kidnapping the words or ideas of others. But more conventionally, plagiarism means stealing the words or ideas of others and using them as your own. The Simon Frazer University of Canada gives the definition of plagiarism as "a form of academic dishonesty in which an individual submits or presents the work of another person as his or her own. . . . Plagiarism also exists when there is inadequate recognition given to the author for phrases,

sentences, or ideas of the author incorporated into an essay.” Sources which individuals plagiarize include: books, songs, interviews, correspondence, articles, and so on. In its guide to its students, University of Illinois lists practices that constitute plagiarism. They include: copying the words of others, whether from a source or another student; purchasing or downloading a paper from the internet and turning it in; paraphrasing (rewriting in your own words) a source and not documenting it; not using quotation marks properly when using material from another source.

The research field is open for wide consultation and borrowing of ideas, but there is a rule that if you consult a person’s words or ideas, you must acknowledge that person. You acknowledge him by telling your reader that, even though some of the things you have written belong to you, a particular portion of the writing belongs to a named person. To fail to acknowledge your source, to fail to say that an idea is not yours, is to plagiarize. It is a serious crime in the academic world. According to Granitz and Loewy (2007) the crime of “plagiarism tips the scales of fair competition, hampers learning, dilutes individual and class grades, and cheapens the value of honest work, hurting the perpetrator, other students, as well as their professors.”

Copying from others’ works and failing to acknowledge them attracts severe punishment in the academic world. Indeed, the offender is looked at the same way that bankers might look at a staff who pilfered customer’s wealth kept in the bank. Depending on the nature of plagiarism, and the academic level of the plagiarist involved, plagiarism may be punished with instant expulsion or failure of the course involved. Some universities go as far as withdrawing certificates and degrees awarded their former students once they discover that such a former student plagiarized some or all of their research work.

Self-Assessment Exercise 3.1

- i. Define plagiarism.
- ii. What is the meaning of the Latin word from which the English word, plagiarism, arose?

3.2 Types of Plagiarism

Plagiarism can take several forms. Researchers classify the several forms plagiarism can take into four. They include: global plagiarism, patchwork plagiarism, incremental plagiarism, and self-plagiarism.

3.2.1 Global Plagiarism

Lucas (2004) defines global plagiarism as stealing your whole work from another source, and passing them off as your own. The internet particularly has made this type of plagiarism tempting as there are numerous internet sources a plagiarist may decide to consult, lift and appropriate to himself. There are also numerous internet sites that promise to conduct researches for others. If the internet has helped plagiarists to engage in plagiarism, students should know that the same internet also makes detection of plagiarized work easier. There are arrays of computer software that makes detection of works plagiarized from the internet easy. A simple click of the mouse easily reveals source of internet articles if one appropriated them. Global

plagiarism is the worst form of plagiarism. Lucas regards it as “the most blatant—and unforgivable—kind of plagiarism, it is grossly unethical.”

It is impossible for the plagiarist to acknowledge the owners of the idea he has appropriated if he engages in global plagiarism. This is because the whole work will be shown to belong to another author different from him. The best way to avoid this form of plagiarism is for the researcher to bend down to his work.

3.2.2 Patchwork Plagiarism

Lucas (2004) describes patchwork plagiarism as the type of plagiarism that occurs when a writer steals his entire work from two or more sources. Students who do patchwork plagiarism consult many sources and take time to appropriate relevant sections from them and join them together to form a coherent work done by them.

Like as is the case with global plagiarism, it is also impossible for the plagiarist in patchwork plagiarism to acknowledge that he is not the owner of the ideas or words he appropriated. If he does this, his work will turn out to be product of two or more authors excluding himself.

3.2.3 Incremental Plagiarism

According to Lucas (2004) this type of plagiarism occurs when a writer takes a portion of a person’s work and incorporates it into his work as if they form part of his original work. Here he fails to cite his author. Unlike the authors in the global and patchwork plagiarism who cannot be acknowledged, the authors who own works that are plagiarized in incremental plagiarism can still be acknowledged if the plagiarist wants to do so. This is because, despite passing off other people’s ideas as his own, he still has his original input into the work. Most researchers who engage in incremental plagiarism often claim ignorance that they did not know that what they did was plagiarism.

3.2.4 Self-Plagiarism

Another name of self-plagiarism is recycling fraud. This type of plagiarism involves one plagiarizing from one’s earlier work. It occurs when a researcher republishes a work he has published earlier, or portion of them in another place without indicating that he has published it earlier. Most researchers who engage in self-plagiarism rarely know that it is academic dishonesty to republish an earlier research. Roig(2002) lists four forms that self-plagiarism can take. We discuss three of such forms here. They include: *duplicate publication, salami-slicing, and text recycling*.

In **duplicate publication**, a researcher republishes all or substantial parts of an earlier published work in another medium different from the first. Duplicate self plagiarism presents a whole article or a good portion of it as original and current when indeed it is not.

Salami-slicing involves cutting up results of a study and publishing them in multiple articles. This type of self plagiarism gives the impression that the author has done multiple research work when indeed he has only done one research work. To avoid salami-slicing, a researcher should publish the outcome of a study in one piece.

Text-recycling entails an author copying some portions of his earlier work and including them in another research different from the original.

Self-assessment Exercise 3.2

- i. List the four types of plagiarism,

3.3 Consequences of Plagiarism

We have so far emphasized that plagiarism is an academic fraud. It is the greatest crime one can commit in the academic world. A student researcher should understand that research is not an easy work. It poses the same problem to his lecturer as it poses to him. However, this is no justification for plagiarism. Plagiarizing research work comes with serious consequences. Snapper (1999) lists what he considers as the harms or consequences of plagiarism

1. Plagiarism denies the author credit. The author of the idea or work a plagiarist has claimed as his own is the first victim of plagiarism. Snapper holds that when we fail to acknowledge an author we deny him reputation due to him as the original owner of the idea.
2. It denies the readers the chance of reading up additional sources related to the topic.
3. It dents the image of the plagiarist. In some instances, plagiarism has ended the career of many promising personalities.

Self-assessment Exercise 3.3

What are the three harms of plagiarism?

3.4 Tips on How to Avoid Plagiarism

Sue Hendrix lists the following tips on how to avoid plagiarism.

1. Use quotation marks around all works and phrases from any source and cite the source.
2. Cite the source for any idea that are not your original ideas.
3. Paraphrase by putting information in your own words but still remember to cite the source.
4. List every source that is used in the paper in the Works Cited.

Self-Assessment Exercise 3.4

List four tips on how to avoid plagiarism

4.0 CONCLUSION

Plagiarism is a serious crime in the academic world. It can cut down the scholarly life of a burgeoning scholar long before he has attained his height. Worse still, it can bring down an intellectual giant from the big height he has attained. A research student should avoid plagiarism as one avoids leprosy. He should be very careful about citing his sources; making sure that he acknowledges works by others as works by others. This gives his work credibility.

5.0 SUMMARY

In this unit, we explained the meaning of plagiarism to you. We also exposed the different types of plagiarism to you, as well as the consequences of plagiarism and how to avoid plagiarism. Avoiding plagiarism in your research work means that you have put forward a good foot in your work as a researcher.

6.0 TUTOR-MARKED ASSIGNMENTS

1. What is plagiarism
2. Distinguish between global plagiarism and patchwork plagiarism
3. Show your understanding of the three types of self-plagiarism
4. List four tips on how to avoid plagiarism

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