**COURSE GUIDE**

# MAC 213
# FOUNDATIONS OF COMMUNICATION RESEARCH


**Course Team** Chidinma H. Onwubere (PhD) Course Developer)- NOUN
Mr Myke Esiri - Redeemer's University
Chidinma H. Onwubere (PhD) – NOUN (Course Writers)
Dr. Olubunmi Ajibade (Editor) – UNILAG
Jonathan E. Aliede, Ph.D. (HOU) - NOUN



**NATIONAL OPEN UNIVERSITY OF NIGERIA**

National Open University of Nigeria,
Headquarters,
University Village,
Plot 91, Cadastral Zone,
Nnamdi Azikiwe Expressway,
Jabi, Abuja.

Lagos Office
14/16 Ahmadu Bello Way
Victoria Island, Lagos

e-mail: centralinfo@nou.edu.ng
URL: www.nouedu.net



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## Introduction

### Welcome to MAC 213: Communication Research

This is a 2 credit unit course whose primary focus is to introduce undergraduate students of Mass Communication to the data gathering methods in Journalism and Mass Communication. The essence is to improve your skill for analyzing data and prepare you for the critical evaluation of any piece of writing in Mass Communication. More importantly, this course will help you to apply the learnt methods while carrying out your research projects.

This course treats the fundamental principles required for gathering and collecting data, both for qualitative and quantitative research modes at any level of your academic pursuit. It particularly highlights the types of, and approaches to research. That is, the general concept of research and it looks at the sources of data. It then, generally examines the areas of Communication research from which students may readily access interesting research topics or from where they can get good clues for stimulating research topics. The course is developed essentially for Nigerian students hence, the sample presented and examples used are typically Nigerian in orientation and setting. It takes into consideration, the professional and academic needs of the undergraduate students of Journalism and Mass Communication.

This course guide is meant to give you basic information about this course. Hence, it specifies the amount of time you are required to spend on each assignment. It equally directs you on how to go about your Tutor-Marked Assignments (TMAs). It advises you on how to make the best out of your course materials; through: reading them, attending tutorial classes and actively participating at these tutorials.

## What You will Learn in this Course

This course is meant to expose you to the basic concepts in data gathering and analysis through: the identification of research problems; setting meaningful objectives and selecting the appropriate methods of carrying out the research. The course examines both from the practical and critical perspectives, a range of qualitative and quantitative research methods relevant to professional and academic needs in Mass communication. Hence it effectively takes you through methods such as, content analysis, survey, focus group discussion, and in-depth interviews.

The thorough understanding of this course will help you appreciate the differences between Communication Research and other types of researches. It will equally empower you to face the challenges of analyzing the data for your research project without many problems. In studying this course, you stand a good chance of evaluating any piece of work statistically. Your adequate exposure to Communication Research will empower you not only to effectively analyse your data but to equally do a good report of your research proceedings.

This course guide is meant to help you accomplish the aims and objectives of this course. Hence you are advised to read it carefully so as to get the best out of your course.

## Course Aims

The primary aim of this course is to inculcate in you the appropriate skill for: gathering, and analyzing data as well as, write good reports for any research investigation in Journalism and Mass Communication.

## Course Objectives

Certain objectives must be achieved from the study of this course. So at the end of this course, you should be able to:

(i) Define "research" and discuss its nature
(ii) Discuss the scope and concerns of media research.
(iii) Identify the different elements of research e.g. concepts, hypothesis, variables, measurement
(iv) Identify and discuss the major communication research methods.
(v) Discuss the different areas of communication research.

## Working through this Course

To maximally benefit from this course, you should read the study units provided through your course material. You equally do the self assessment exercises which you will find under every unit of this course.

Try as much as you can to locate the texts recommended for further readings. Please read some of them to complement what you already have in your course materials.

There are also Tutor Marked Assignments at the end of each unit which constitute your Continuous Assessment for the course. At the appropriate time the School will inform you on which of the TMAs to do and when to submit them.

Remember, all the components of this course are very important as they all contribute to your total scores and eventually your success.

## Course Materials

The major materials you will need for this course are:

(i) Course guide
(ii) Study units
(iii) Assignments file
(iv) Relevant textbooks including the ones listed under each unit.

## Study Units

There are 16 units in this course. They are listed below:

## MODUULE 1 INTRODUCTION

Unit 1 The concept of research
Unit 2 Classification of research
Unit 3 The scientific method and the development of mass media research

## MODULE 2 ELEMENTS OF RESEARCH

Unit 1 Concepts, Constructs, hypotheses and instrumentation
Unit 2 Variables
Unit 3 Measurement, scales and Indexes

## MODULE 3 MAJOR COMMUNICATION RESEARCH METHODS

Unit 1 Experimental research
Unit 2 Survey research
Unit 3 Content analysis
Unit 4 Other research methods

## MODULE 4 SAMPLING

Unit 1 Meaning and types of sampling
Unit 2 Population and sample
Unit 3 Sampling size and sampling error

## MODULE 5 THE RESEARCH PROCESS

Unit 1 The research procedure
Unit 2 Data analysis in communication research
Unit 3 Documentation in communication research.

## Textbooks and References

Certain books have been recommended in the course. You may wish to purchase them for further reading.

## Assessment

An assessment file and a marking scheme will be made available to you. In the assessment file, you will find details of the works you must submit to your tutor for marking. There are two aspects of the assessment of this course; the tutor marked and the written examination. The marks you obtain in these two areas will make up your final marks.

## Assignment File

The assignment must be submitted to your tutor for formal assessment in accordance with the deadline stated in the presentation schedule and the Assignment file.

The work you submit to your tutor for assessment will count for 30% of your total score.

## Tutor-Marked Assignment

You will have to submit a specified number of the TMAs. Every unit in this course has a tutor marked assignment. You will be assessed on four of them but the best three performances from the TMAs will be used for your 30% grading. When you have completed each assignment, send it together with a Tutor Marked Assignment form, to your tutor.

Make sure each assignment reaches your tutor on or before the deadline for submissions. If for any reason, you cannot complete your work on

time, contact your tutor for a discussion on the possibility of an extension. Extensions will not be granted after the due date unless under exceptional circumstances.

## Final Examinations and Grading

The final examination will be a test of three hours. All areas of the course will be examined. Find time to read the units all over before your examination. The final examination will attract 70% of the total course grade. The examination will consist of questions, which reflect the kinds of self assessment exercises and tutor marked assignment you have previously encountered. And all aspects of the course will be assessed.

You should use the time between completing the last unit, and taking the examination to revise the entire course.

## Course Marking Scheme

The following table lays out how the actual course mark allocation is broken down.

| **Assessment** | **Marks** |
|---|---|
| Assignments (Best Three Assignments out of four marked) | = 30% |
| Final Examination | = 70% |
| Total | 100% |

## Presentation Schedule

The dates for submission of all assignments will be communicated to you. You will also be told the date of completing the study units and dates for examinations.

## Course Overview

| | Title of work | Weeks Activity | Number of Assignment |
|---|---|---|---|
| | Course Guide | | |
| | **Module 1** | | |
| Unit 1 | The concept of research | Week 1 | Assignment 1 |
| Unit 2 | Classification of research. | Week 2 | Assignment 1 |
| Unit 3 | The scientific method and the development of mass media research | Week 3 | Assignment 1 |
| | **Module 2** | | |
| Unit 1 | Concepts, Constructs, hypotheses and instrumentation | Week 4 | Assignment 1 |
| Unit 2 | Variables | Week 5 | Assignment 1 |
| Unit 3 | Measurement, Scales and Indexes. | Week 6 | Assignment 1 |
| | **Module 3** | | |
| Unit 1 | Experimental Research | Week 7 | Assignment 1 |
| Unit 2 | Survey Research | Week 8 | Assignment 1 |
| Unit 3 | Content Analysis | Week 9 | Assignment 1 |
| Unit 4 | Other research methods | Week 10 | Assignment 1 |
| | **Module 4** | | |
| Unit 1 | Meaning and Types of Sampling | Week 11 | Assignment 1 |
| Unit 2 | Population, and Sample size | Week 12 | Assignment 1 |
| Unit 3 | Sampling size and sampling error | Week 12 | Assignment 1 |
| | **Module 5** | | |
| Unit 1 | The research procedure | Week 13 | Assignment 1 |
| Unit 2 | Data Analysis in Comm. Res | Week 14 | Assignment 1 |
| Unit 3 | Documentation in Comm. Res | Week 14 | Assignment 1 |
| | **Total** | **14** | **22** |

## How to Get the Most from this Course

In distance learning, the study units replace the university lecture. This is one of the great advantages of distance learning; you can read and work through specially designed study materials at your own pace, and at a time and place that suits you best. Think of it as reading the lecture instead of listening to the lecturer. In the same way a lecturer might give you some reading to do, the study units tell you where to read, and which are your text materials or set books. You are provided exercises to do at appropriate points, just as a lecturer might give you an in-class exercise. Each of the study units follows a common format. The first item 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. Next to this is a set of learning objectives. These objectives 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. The moment a unit is finished, you must go back and check whether you have achieved the objectives. If you make this a habit, then you will significantly improve your chances of passing the course. The main body of the unit guides you through the required reading from other sources. This will usually be either from your set books or from a Reading section. The following is a practical strategy for working through the course. If you run into any trouble, telephone your tutor.

Remember that your tutor's job is to help you. When you need assistance, do not hesitate to call and ask your tutor to provide it.

1. Read this Course Guide thoroughly, it is your first assignment.

2. Organize a Study Schedule. Design a 'Course Overview' to guide you through the Course. Note the time you are expected to spend on each unit and how the Assignments relate to the units. Whatever method you choose to use, you should decide on and write in your own dates and schedule of work for each unit.

3. Once you have created your own study schedule, do everything to stay faithful to it. The major reason why students fail is that they get behind with their course work if you get into difficulties with your schedule, please, let your tutor know before it is too late to help.

4. Turn to Unit 1, and read the introduction and the objectives for the unit.

5. Assemble the study materials. You will need your set books and the unit you are studying at any point in time. As you work through the unit, you will know what sources to consult for further information.

6. Keep in touch with your study centre. Up-to-date course information will be continuously available there.

7. Well before the relevant due dates (about 4 weeks before due dates), keep in mind that you will learn a lot by doing the assignment carefully. They have been designed to help you meet the objectives of the course and, therefore, will help you pass the examination. Submit all assignments not later than the due date.

8. Review the objectives for each study unit to confirm that you have achieved them. If you feel unsure about any of the objectives, review the study materials or consult your tutor.

9. When you are confident that you have achieved a unit's objectives, you can start on the next unit. Proceed unit by unit through the course and try to pace your study so that you keep yourself on schedule.

10. When you have submitted an assignment to your tutor for marking, do not wait for its return before starting on the next unit. Keep to your schedule. When the assignment is returned, pay particular attention to your tutor's comments, both on the tutor-marked assignment form and also the written comments on the ordinary assignments.

11. After completing the last unit, review the course and prepare yourself for the final examination. Check that you have achieved the unit objectives (listed at the beginning of each unit) and the course objectives (listed in the Course Guide).

## Facilitators/Tutors and Tutorials

Information relating to the tutorials will be provided at the appropriate time. Your tutor will mark and comment on your assignments, keep a close watch on your progress and on any difficulties you might encounter and provide assistance to you during the course. You must take your tutor-marked assignments to the study centre well before the due date (at least two working days are required). They will be marked by your tutor and returned to you as soon as possible.

Do not hesitate to contact your tutor if you need help. Contact your tutor if:

- you do not understand any part of the study units or the assigned readings
- you have difficulty with the exercises
- you have a question or problem with an assignment or with your tutor's comments on an assignment or with the grading of an assignment.

You should try your best to attend the tutorials. This is the only chance to have face-to-face contact with your tutor and ask questions which are answered instantly. You can raise any problem encountered in the course of your study. To gain the maximum benefit from course tutorials, prepare a question list before attending them. You will learn a lot from participating in discussion actively.

## Summary

The course guide gives you an overview of what to expect in the course of this study. The course teaches you the basic principles of **Communication Research** and how these principles can be applied. It also acquaints you with the basic communication researches in journalism and mass communication.
We wish you success in the course and hope that you will find it both interesting and useful.

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**MODULE 1 INTRODUCTION**

Unit 1 The meaning of research
Unit 2 Classification of research
Unit 3 The scientific method and mass media research.
Unit 4 Development of mass media research

## UNIT 1 THE MEANING OF RESEARCH

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### 1.0 INTRODUCTION

Welcome to the research class. Research is one of the essential activities you must undertake for you to earn your degree at the National Open University of Nigeria (NOUN). You cannot wish it away; so you better be prepared to study research as meticulously as possible. As you will find out, research is both an interesting and rigorous endeavour. This is because it has some technicalities or procedures that must be strictly adhered to before you can successfully conduct a research project. In this class you will be exposed to the fundamentals or basics of communication research. This is with a view to prepare you towards carrying out a research project of your own as part of the requirements for the award of a degree at NOUN.

### 2.0 OBJECTIVES

On successful completion of this unit, you should be able to:

- Define the concept of research
- Understand the characteristics and objectives of research
- Know the significance of research
- Know the attributes of a researcher
- Understand the relationship between theory and research
- Have an idea of the research procedure.

## 3.0 MAIN CONTENT

### 3.1 The Concept of Research

Research is a term you are probably familiar with. In other words, this is probably not your first time of hearing or coming across the term "research". For instance, you are aware that those in the academic community (universities, polytechnics, monotechnics and colleges of education) regularly engage in one form of research or the other. You are also probably aware that there are several research institutions in Nigeria like the National Institute of Social Economic Research (NISER) Ibadan, Nigerian Institute for Oceanography and Marine Research, Lagos, and National Vertinary Research Institute, Jos, among many others that were established by the Federal Government to engage in various forms of research. You may also be aware that in most multinational corporations, they have what is known as Research and Development (R&D) departments whose major responsibility is research and product development. Since you are aware of some, if not all of these facts, the question therefore arises: what is research?

Some students were asked the above question and some of the responses obtained include the following:

"Research is what we do when our lecturers give us assignments."
"Research is part of what we do in our final year to earn our degrees."
"Research is the thing we do when we want to find something out."

While the above responses do indeed possess some utility as we shall later on explain, they are nevertheless over simplification of the concept of research. Accordingly, they cannot be accepted as valid definitions of research.

It is generally agreed scholars that the term "research" has its etymological derivation from the French word "recherché" which means "to investigate thoroughly" or "to go about seeking". The term itself is derived from another old French word "recerchier" from the compound word "re" + "cerchier" which means to search really hard. In other words, it means to investigate thoroughly; to search for knowledge again and again.
In the English language, the word research is composed of two syllables; *re* and *search.* While re is a prefix meaning again, anew or over again, search is a verb which means to examine closely and carefully, to test and try, or to probe. Therefore, research means to search for knowledge again and again. Some synonyms for research are *inquiry, investigation* and *study.*

The quest for knowledge is probably an innate attribute of man. Having found himself in a complex world full of puzzles and problems it is only natural for man to seek for knowledge about the complex world in which he lives. Obviously, man needs knowledge about the world around him so that he can live a meaningful life on planet Earth. This is where research comes in.

**SELF ASSESMENT EXERCISE 1**
List 10 research institutions in Nigeria and indicate their focus of research.

**Definitions of research**

In the broadest sense of the word, research includes any gathering of data, information and facts for the advancement of knowledge (Shuttleworth, 2008). Similarly, research in common parlance refers to a search for knowledge on the investigation of a particular topic using a variety of reliable, scholarly resources.

Some other people consider it as a movement from the known to the unknown; a voyage of discovery. Human beings possess the vital instinct of inquisitiveness for when the unknown confronts them, they wonder and their inquisitiveness makes them probe and attain full and better understanding of the unknown. This inquisitiveness is the mother of all knowledge and the method which man employs for obtaining the knowledge of whatever is the unknown, can be referred to as research.

The *Oxford Advanced Learners Dictionary* 7th Edition (2005) defines research as "a careful study of a subject, especially in order to discover new facts or information about it". Although the discovery of new facts is the ultimate aims of most research endeavours, some are undertaken to prove whether the outcomes of a previous research are valid or not.

*The Chambers Dictionary* 11th Edition (2009) defines research as "careful search; investigation; systematic investigation towards increasing the sum of knowledge". Similarly, the *Merriam – Webster Online Dictionary* defines research as "a studious inquiry or examination; investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts or practical application of such new or revised theories or laws".

Having examined some broad and dictionary definitions, we now turn to some more scholarly, technical or academic definitions of research. These definitions capture the essence of scientific research more than the previous ones.

According to Crosswell (2008) "research is a process of steps used to collect and analyze information to increase our understanding of a topic or issue." The important thing about this definition is that if emphasizes the fact that scientific research is conducted in stages. In other words, it is a step-by-step process.

Shuttleworth (2008) asserts that, "the strict definition of scientific research is performing a methodological study in order to prove a hypothesis or answer a specific (research) question". He further explains that finding a definitive answer to a problem is the central goal of most scientific research.

The Demilicious blog (2013) defines research as the scientific investigation of phenomena which includes collection, analysis, interpretation and presentation of facts that lines an individual's speculation with reality. This definition is very useful in that if captures the essence of what is done in social science research.

To Kerlinger and Lee (2000:14), "scientific research is systematic, controlled and critical investigation of hypothetical propositions about the presumed relations among natural phenomenal". Although, this is a very useful definition of research, it should be pointed out that

much of the research conducted in the Humanities and Social Sciences have little or nothing to do with natural phenomena.

Osuala (2005:1) defines research as "the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis and interpretation of data." He further adds that research is oriented towards the discovery of the relationship that exist among the phenomena of the world in which we live.

Research can also be defined as a structured enquiry that utilized acceptable scientific methodology to solve problems and create new knowledge that is generally applicable. Another acceptable definition of research is the systematic method consisting of enunciating the problem, formulating a hypothesis or research question, collecting the facts or data, analyzing the facts and reaching certain conclusions either in the form of solution(s) towards the concerned problem or in certain generalizations for some theoretical formulation. Research can also be defined as an endeavour to discover answers to intellectual and practical problems through the application of scientific method.

With the above definitions, it is obvious that we have examined the concept of research from various perspectives and can make some comments, elaboration or explanations.

Research is an original contribution to the existing stock of knowledge making for its advancement. It is the search for knowledge through objective and systematic method of finding solution to a problem. It is also the systematic approach concerning generalization and the formulation of a theory.

Research is knowledge that can be explained or verified through some procedure. For one to engage in any research, the expected outcome of that research must be important otherwise there will be no need for the research. Consequently, all research activities start from problems that require solutions. This may sometime originate from an idea, a puzzle or simple the wish to explore our knowledge about simple issue, phenomena, situations or societies.

Most research endeavours started with problems which were puzzles. A puzzle is not just a lack of understanding but a gap in our understanding of a phenomenon, issue or situation. (Des Wilson, Esiri and Onwubere, 2008).

Research is devoted to finding conditions under which a certain phenomenon occurs and the conditions under which it does not occur in what might appear to be similar circumstances.

According to Ajala (1996:1), the research attitude presumes that the first look and every later look may be prone to error so we must look again and again differently and thoroughly each time. Research also minimizes the role of chance in knowledge acquisition and scientific investigation. Research also allows for accumulation of knowledge and make improvement without discarding old but valid knowledge in favour of new facts.

Research is also a way of thinking; examining critically the various aspects of any professional work. It is also a habit of questioning what is done and a systematic examination of the observed

information to find answers with a view to instituting appropriate changes for a more effective academic or professional service.

Research is also used to establish or confirm facts, reaffirm the result of previous work, solve new or existing problems, support theories or develop new theories. A research project may also be an expansion on past work in a particular field.

A scholarly research is the product of a knowledge-gathering process through the use of academically accepted fact-finding methods and tools and the ultimate presentation of the empirical findings in a professional manner (often through conferences, seminars, journals and books) to the academic community and the public at large.

Research is undertaken within most professions and disciplines. Since the disciplines differ, the meaning and conduct of research tend to differ from one academic discipline to another. Those who do, conduct or carry out research are known as researchers.

**SELF ASSESSMENT EXERCISE**
Distinguish between broad, dictionary and technical definitions of research.

### 3.2 Characteristics of research

It is obvious from our discussion so far that some academic activities are not research in the true meaning of the concept. These include randomly surfing the internet or selection of books from the library to read. Similarly, our day-to-day observation and interpretation of such observation is not research because it lacks formality, verifiability and validity of research.

Research is a rigorous and verifiable academic/scientific endeavour with the following characteristics:
**Systematic** – This means that the procedure utilized in conducting the research follows a rigid standard protocol or logical sequence. The different steps cannot be undertaken in a haphazard manner. Some steps must follow others

**Empirical –** This implies that any conclusion drawn from a research work is based on hard evidence gathered from data collected from field work or real life experiences.

**Valid and verifiable** - This implies that whatever conclusions reached are on the basis of the findings being correct and can be verified by other researchers.

**Critical –** This implies that research exhibits careful and precise judgment. This also means that the process of investigation must be foolproof and free from drawbacks. The process adopted and the procedure used must also be able to withstand critical thinking.

**Rigorous –** This implies that the researcher must be scrupulous in ensuring that the procedures followed to find answers to questions are relevant, appropriate and justified. It should be noted, however, that the degree of rigour varies markedly between the physical and social sciences.

**Organized** - Research endeavour is not carried out haphazardly but planned including literature review and evaluating what questions need to be answered.

**Analytical** – Research utilized proven analytical procedures in gathering the data.

**Replicable** – The research design and procedures can be repeated to enable the researcher to arrive at valid and conclusive results.

Other characteristics of research according to the Indiana State University's website (www.indiana.edu) are as follows:

- The goal is inference
- The procedures are public
- The conclusions are uncertain

### 3.3 Purpose of research

The major purpose of research is to discover answers to questions through the application of scientific procedures. Furthermore, the aim is to find out the truth which is hidden and which has not been discovered. Though each research work has its own specific objective, Kotham (2009), states that research objectives fall into a number of the following broad groupings:

i. To contribute to knowledge in a given discipline, issue, situation or provide practical solutions to problems.
ii. To gain familiarity with a phenomenon or to achieve new insights into it
iii. To portray accurately the characteristics of a particular individual, situation or a group
iv. To determine the frequency with which something occurs or which it is associated with something else
v. To test a hypothesis of a casual relationship between variables

In addition to the above, Collis and Hussey (2003) add the following objectives of research:

i. Review or synthesize existing situations or problems.
ii. Investigate existing situations or problems.
iii. Provide solutions to problems.
iv. Explore or analyze more general issues.
v. Construct or create new procedures or systems.
vi. Explain new phenomenon.
vii. Generate new knowledge.

### 3.4 Attributes of the researcher

A good researcher should possess some attributes or characteristics if he most succeed in his endeavour. Although, the list of such attributes is much, the following are the salient ones:

**Intellectual curiosity** – This implies that the researcher undertakes a deep thinking and inquiry of the things and situations around him.

**Prudence –** This means that the researcher should be careful to conduct his research at the right time and place wisely efficiently and economically.

**Healthy criticism** – This implies that the researcher seeks to be absolutely sure of the results of his study.

**Intellectual honesty** – This means that an intelligent researcher is honest to collect or gather data or facts in order to arrive at honest conclusion.

**Intellectual creativity** – A productive and resourceful investigation always strives to create new researches.

### 3.5 Significance of Research

The values of research to mankind include the following:

- Research makes progress possible. This is based on the maxim which states that, "All progress is born of inquiry. Doubt is often better than over-confidence for it leads to inquiry and inquiry leads to invention."
- Research inculcates scientific and inductive thinking and it promotes the development of logical habits of thinking and organization.
- Research leads to the discovery of truth
- Research leads to improvement in the quality of life
- Research leads to new product development
- Research improves students' achievement
- Research improves teachers' competence and career advancement
- Research leads to the abandonment of obsolete and invalid ideas and the adoption of new line of thinking.

**SELF ASSESSMENT EXERCISE**

Do you consider research indispensable to man's existence on Earth?

### 3.6 Relationship between theory and research.

Theory and research are two sides of a coin. However, although intimately related yet they are completely interdependent.

Simply defined, theory is a way of making sense out of the world, a way of explaining things that seem puzzling. According to Heimenstine (2013), "in the context of science, a theory is a well-established explanation for scientific data." The *Merriam – Webster Online Dictionary* defines theory as "a plausible or scientifically acceptable principle or body of principles offered to explain phenomenon.

Severin and Tankard (2001), define a theory as a set of ideas or systematic generalizations based on scientific observation leading to further empirical observation." This means that we can use theories to make predictions about the outcomes of certain events.

Essentially, theory performs the following roles in research:

i. It serves as a critical guide to research
ii. It sets problems for research
iii. It identifies new subjects for research

iv. It directs research inquiry

Research on the other hand performs the following roles in theory
i. Research findings suggests new problems for theory
ii. It invites new theoretical formulations
iii. It leads to the final retirement of theories themselves

According to Onabajo, (2010), theory and research are closely related through the scientific method. He explains that theory and research are mutual in the sense that they both use the scientific method. Also both theory and research exist in the origin of each other. A well research subject forms a theory and a theory can also spring up from a hypothesis that begins a research.

In essence, theory provides the logical support while research provides the empirical support. But the Siamese link between social theory and social research goes deeper. In practice, they both interact through a never-ending circle of two approaches to scientific inquiry, known as deduction and induction. The deduction approach means using research to test theories while the induction approach is simply developing theories from analysis of research data. Hence, both theory and research are interwoven and work hand in hand. One cannot do without the other. The existence of one depends on the other. This is what Onabajo (2010) refers to as the mutuality of research and theory.

## 3.7 Steps in Conducting Research

We have previously explained that one of the characteristics of research is its systematic nature. This implies that it follows a logical sequence or steps. The various stages generally represent the overall research process. It should, however, be noted that differences in the disciplines tend to affect the various stages hence the stages presented below cannot represent a fixed set of steps. Nevertheless, the following are the general steps in conducting mass media research.

- Identification or formulation of research problem
- Specifying the specific purpose or objectives of the research
- Specifying specific research questions or hypotheses
- Literature review
- Specifying data collecting method (s)
- Analyzing and interpreting data
- Drawing conclusions and making recommendations
- Reporting the research

More on the research procedure in Module 5.

## 4.0 Conclusion

Research is one of the essential components of any scientific endeavour. It offers the researcher a measure of control and autonomy over what is being studied. It also presents an opportunity for the researcher to confirm, clarify, pursue or even discover new aspects of a subject or topic.. you should be thinking of a research idea, you will like to investigate for your degree project.

## 5.0 Summary

Among other things, you have learnt the following from this unit:

- The concept of research
- The characteristics of research
- The purpose of research
- The importance of research
- The essential qualities of a researcher
- The relationship between theory and research.

## 6.0 Tutor-Marked Assignment

Discuss the mutuality between theory and research.

## 7.0 References/Further Reading

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## UNIT 2 CLASSIFICATION OF RESEARCH

**CONTENTS**



### 1.0 Introduction

Now that you have understood the concept and significance of communication research, the next step is to classify research. This is crucial because research is not a monolithic enterprise but comes in various types or formats. We have earlier indicated that even the steps in the research procedure differ slightly from discipline to discipline and from one researcher to another. Therefore, it is obvious that classification of research is not an easy exercise. Researchers are not agreed on the classification of research. Indeed, there is no hard and fast rule for classifying research. This means that one type of research can overlap and fit into more than one category at the same time. For the convenience of this unit, research has been classified according to philosophical approach, purpose, design, data approach, level of data analysis as well as "others".

### 2.0 Objectives

On successful completion of this unit, you should be able to:

- identify the various types and formats of research in mass communication and the social sciences
- describe the content and context of the various research formats
- adopt them for use in your own research project.

### 3.0 MAIN CONTENT

### 3.1 Classification by philosophical approach

There are two main research philosophies or approaches in the social sciences. These are *positivistic* and *phenomenological* perspectives. Positivistic approach also known as quantitative approach is founded on the belief that the study of human behaviour or social phenomenon should be conducted in the same way as studies conducted in the natural or physical sciences. Positivistic approach seeks to identify, measure (calculate) and evaluate phenomena and provide rational explanations for them.

Phenomenological approach also known as qualitative approach is founded on the belief that human behaviour is not easily measured as phenomena in the natural or physical sciences. This approach is particularly concerned with understanding behaviour from the participant's own subjective frame of reference.

Kothan (2009) further explains that quantitative research is based on the measurement of quantity or amount (numeric data) while quanlitative research is concerned with qualitative phenomena, that is, phenomena relating to or involving quality or kind (non-numeric data). Qualitative research is especially important in the behavioural sciences where the aim is to discover the underlying motives of human behavior.

Data analysis in quantitative research is mainly statistical or deductive approach. As noted by Des Witson, Esiri and Onwubere (2008), qualitative research is designed primarily to yield non-quantitative or non-numerical data. It involves the collection of extensive narrative data in order to gain insights into the phenomena of interest. Data analysis involves the coding of data and production of a verbal synthesis or inductive process. In other words, it does not depend on the measurement of variables or research elements.

### 3.2 Classification by Purpose

Research can also be classified according to its purpose. In this regard, research can either be *basic* (fundamental) or *applie*d (action).

According to Kotham (2009), applied research aims at finding solutions for immediate problems facing a society, business or industrial organizations whereas basic or fundamental research in its purest term is conducted solely for the purpose of theory development or refinement. This is why it is also referred to as academic research or "gathering knowledge for knowledge sake". In other words, basic research is conducted for academic purposes rather than for its intrinsic value for the society. For example, the type of research you will conduct of the end of your studies at NOUN is most likely to be basic or fundamental research.

Research studies concerning human behaviour or social phenomena conducted with a view to make generalizations about human behaviour are examples of fundamental or basic research. They have little or no practical value or application. They are the dominant types of research conducted mostly by the academia (i.e. scholars in university faculties and other tertiary institutions).

Research aimed at finding certain solutions facing a concrete social or business problem is a good example of applied research. Similarly, research to identify social, economic or political trends that may affect a particular organization or research to find out whether certain media content will be read and understood by the target audience are examples of applied research. Therefore, the main aim of applied research is to discover or find a solutions for some pressing practical problems whereas fundamental or basis research is directed towards finding information that here a broad base of applications and thereby adds to the already existing organized body of knowledge in that discipline.

**SELF ASSESSMENT EXERCISE**

Visit the NOUN or any other library and read four Mass Communication related projects and identify their philosophical approaches.

## CLASSIFICATION BY DESIGN

A very convenient way of classifying research is by design, which has been defined by De Vaus (2001) as "a logical structure of inquiry or research." Frankfurt-Nachmias and Machics (2009) cited in Popoola (2012) state that a research design is the programme that guides the researcher as he/she collects, analyses and interprets observations. Popoola (2012) states that research design is a plan of action or specification for collecting data necessary and suitable for testing hypotheses and provide answers to research questions under specified conditions.

Research design is different from the methods by which data are collected. De Vaus (2001) clarifies this point when he states that there is nothing intrinsic about any research design that requires a particular method of data collection. He explains that data for any research design can be collected with any data collection method and how the data are collected is irrelevant to the logic of the design.

Popoola (2002) explains that there are three basic types of research designs namely analytical, experimental and descriptive. According to him, analytical research involves mathematical, linguistic, historical and philosophical analysis as well as any deductive system that can be adopted to derive relationships not necessarily of empirical nature. Experimental research design involves conducting experiments while descriptive research design represents an attempt to provide an accurate description or picture of a particular situation or phenomenon at one or more points in time.

Kothan(2009) explains that the major purpose of descriptive research design is description of the state of affairs as it exists at present. In the social and management sciences, the term *ex post facto* research is used for descriptive research designs. He explains that the main characteristic of this design is that the researcher has no control over the variables, he can only report what has happened or what is happening. Most *ex post facto* research studies are used for descriptive studies in which the researcher seeks to measure such items as for example frequency of television viewership or radio listening. *Ex post facto* studies also include attempts by researchers to discover causes even when they cannot control the variables. The methods of quantitative research utilized in descriptive research are survey research of all kinds and causal-comparative and correlational designs.

The above notwithstanding researchers talk of two basic research designs- quantitative and qualitative. Quantitative research designs include experimental research, survey research and content analysis.:

**Experimental research design.** According to Severin and Tankard (2001) cited in Des-Wilson, Esiri and Onwubere, (2008), experimental research design is the "classic method of dealing with the question of causality, that is, the relationship between something that happened and the reason for it happening or cause and effect". Popoola (2012) corroborates this fact when he states that experimental research is the most frequently used research design to study cause and effect relationship between and among variables or the studied subjects/participants .He explains that in experimental research, the researcher manipulates one or more variables in an attempt to influence the characteristics of the subjects/participants. The investigator has the responsibility of making his/her groups equivalent and of controlling all other variables that are capable of influencing the outcome except the one the researcher is interested in manipulating.

Experimental research is the dominant design in the natural or physical sciences hence some researchers from that discipline assert that there are only two types of research designs—experimental and non experimental. It is important to state, however, that there are several types of experimental research designs but these can be grouped into three basic types –classical, pre-

experimental and quasi-experimental. Classical experimental designs include pretest-posttest control group, posttest only control group, the Solomon four groups, multiple experimental groups and factorial designs. Pre-experimental designs include the one-group pretest-posttest, one-group post-test only and static comparison/posttest only with nonequivalent group designs. Quasi-experimental designs include the nonequivalent control group, time series/interrupted time series and multiple time series designs.

**Survey research design**. This is about the most popular research design among social and management sciences researchers. There is hardly any area or topic of interest in these disciplines that has not been investigated or studied at some time with survey research. Also, most people have had one form of experience or the other with survey research.

Basically, survey research design is quantitative social research in which a researcher asks respondents the same questions, records and analyses their responses or answers. In other words, survey research involves the collection of social data from a sample of individuals through their responses to questions. It is an efficient method for systematically collecting social data from a broad spectrum of individuals.

The popularity of survey research derives from its versatility, efficiency and generalizability. Versatility means that it is used to investigate diverse areas in various disciplines. Survey research is efficient in the sense that several variables can be measured without substantially increasing the time or cost. Generalizability means that the results obtained from a sample survey can be applied to the larger population.

Survey research is often the most appropriate design for developing a representative picture of the attitudes, opinions and characteristics of a large population. In fact, its purpose is for a researcher to describe the attitudes, opinions, behavior or characteristics of the population based on data collected from a sample of a population. Des Wilson, Esiri and Onwabere (2008) corroborate this point when they noted that survey research focuses on people; their vital facts which include beliefs, opinions, attitudes, motivations and behavior. Survey research is conducted to collect and analyze social, economic, psychological and other types of social data.

There are different types of survey research designs. Descriptive survey documents current conditions or attitudes while analytical survey explains why situations exist. Longitudinal survey is conducted over time; cross sectional survey is conducted at one point in time while correlational survey attempts to determine to what extent a relationship exists between two or more variables.

**Content analysis** is a research design that used to be peculiar to communication researchers but now utilized by researchers from other disciplines. When researchers want to investigate the manifest content of recorded communication, the appropriate research approach is content analysis. Kerlinger(2000) defines content analysis as "a method of studying and analyzing communication in a systematic, objective and quantitative manner for the purpose of measuring variables." McQuail (2010) defines it as "the systematic, quantitative and objective description of media text; that is useful for certain purposes of classifying output; looking for effects and making comparisons between media and over time or between content and reality.

The major concepts in content analysis are systematic, objective and quantitative. Systematic means that the content to be analyzed is selected according to explicit and consistently applied rules. Objective means that the researcher's personal idiosyncrasies and biases should not enter the findings while quantitative means that content analysis is designed to yield numeric data because it involves the measurement of variables.

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As stated by Des Wilson, Esiri and Onwubere (2008) the objectives of content analysis include the following:

To describe trends in communication content.
To disclose international differences in communication content
To audit communication content against objectives
To expose propaganda techniques
To discover stylistic features

**SELF ASSESSMENT EXERCISE**

A researcher is considering the following topic for his research project:"Attitudes of Lagos State residents toward Nigerian home videos." What research design will be most appropriate for this study and why?

Having discussed quantitative research designs we now examine qualitative designs. As already explained qualitative research involves the collection of extensive narrative data in order to gain an insight into the phenomenon of interest and is also planned primarily to yield non-numerical data. Qualitative research designs are many and include intensive interview, focus group discussion, ethnography, observation, case study, philosophical/discursive, literature review, evaluation, phenomenology and grounded theory.

**Intensive** (in-depth) **interview** according to Onabajo (2010), is really an extended conversation but it has a different purpose from that of an ordinary conversation. Unlike a typical conversation in in-depth interview is highly focused. It is conducted to get at particular issues such as hidden feelings or attitudes and beliefs to which a respondent may not be aware of or that are only dimly in his or her conscience. According to Wimmer and Dominick (2011:139) intensive or in-depth interviews are unique in that they generally use small samples; provide detailed background about the reasons why respondents give specific answers; allow for lengthily observation of respondents nonverbal responses and are usually very long.

**Focus group discussion** (FGD) also known as group discussion is a research design for understanding people's attitudes and behaviour. According to Wimmer and Dominic (2011:132), in a focus group, 6 to 12 people are interviewed simultaneously in an unstructured discussion about the topic under investigation. Krueger and Casey (2000) cited in Wimmer and Dominick (2001:133) state that FGD has some defining characteristics- participants selected should posses certain characteristics and are recruited to share a quality of interest to the researcher. In addition, focus group has a focused discussion.

Onabajo (2011) adds that the aim of FGD is not to build consensus but to elicit from each participant his or her opinion and description of the behavior of interest. It is mostly conducted

by marketers who want to find out how people feel about a product, service or issue. FGD then is a kind of probe to find out how people think and act.

**Observational research** is based on things seen. It is the classic method of scientific inquiry. It involves not only the ability to perceive events as they occur but also to nose for fine details that others may take for granted. According to Sctizet et al (1976) citied in Des Wildon, Esiri and Onwubere (2008), the basic principle of observational research is that it is an attempt to summarize, systematize and simplify the representation of an event rather than provide an exact representative of it.

Observational research is commonly applied in the behavioural sciences and is also regarded as the gathering of primary data by the researcher's own direct experience (observation) of relevant people, actions and situations without necessarily asking from the respondents. Observation can yield information which people may be unwilling or unable to provide. There are different types of observational research which include structured, unstructured, participant, non-participant and disguised or covert observation.

**Historical research** design comprises the techniques and guidelines by which historians use primary and other secondary sources to present accounts of the past. It relies on records, diaries, oral tradition, photographs and other artifacts to describe, analyze and explain past events, movement, philosophies and such like. Popoopla (2012) adds that historical research design is a systematic and objective location, evaluation and synthesis of evidence in order to establish facts and draw conclusions about past events with a view to explain the occurrence of past events and predict that of the future. Historical research relies significantly on inductive, logical reasoning.

**Ethnography** is the study of an intact group, logically defined in its natural context for a sustained time interval. In other words, it involves any study of a group of people for the purpose of describing their socio-cultural activities and patterns. Ethnographic researchers use a variety of data collection techniques including intensive interview, diary keeping, analysis of exiting documents, video recording among others. The researcher in ethnographic research is typically an observer or a participant observer.

In **case study** research design, a single person, event, process, institution, organization and such like is combination of appropriate data collection techniques and often stresses the experiences and interpretations of those involved. It usually generates new understand, explanations or hypothesis. Care studies are routinely utilized in business, medicine and law.

**Philosophical/discursive** design may cover a variety of approaches but drawn primarily on existing literature rather than new data. A discursive study could examine a particular issue, perhaps from alternative perspectives. It can also put forward a particular argument or examine a methodological issue.

The **literature review** design is basically an attempt to summarize or comment on what is already known about a particular topic. However, it is defined as a systematic, explicit and reproducible way of identifying, evaluating and interpreting all of the research findings and scholarly works available on a topic. A high quality review is not haphazard but consists of all

existing works. There are three types of literature review designs. These are narrative, systematic and meta-analysis. Narrative review is the selective review of the literature that broadly covers a specific topic. Systematic review utilizes exacting research strategies to make certain that the maximum extent of relevant research has been considered. Meta-analysis qualitatively combines the results of studies that are the outcome of a systematic literature review.

**Evaluation** research refers to the process of assessing the effectiveness of a programme planning, implementation and impact. In determines how well a programme or campaign has achieve its stated goals or objectives. It can also be an assessment of organizational change. An evaluation can be formative (designed to inform the process of development) or summative (to judge the effects). Often an evaluation will have elements of both. Evaluation research is widely applied in Advertising, Marketing, Public Relations, Education among other disciplines/professions.

**Phenomenology** is rooted in philosophy. It involves a researcher developing an understanding of a subject's or subjects' reality. In other words, this approach investigates an individual's or groups' perception of reality as the researcher constructs it. The reality may be expressed as an event, programme, relationship, emotion among others.

**Grounded theory** is a general research approach used in building or developing, a theory, providing a new perspective on a subject or topic. It reverses the approach in research which emphasizes data collection in order to test validity or theoretical propositions in favour of an approach that emphasizes the generation of theory from data. Furthermore, in this approach, theory is generated from observation made rather than being decided before the study is conducted. It seeks to challenge previous research approaches that look for evidence in the data to confirm or deny established theories or practices. According to the Bradford University School of Management (2013) the aim of grounded theory then is to approach research with no preconceived idea about what might be discovered or leaned.

## 3.4 CLASSIFICATION BY EVIDENCE

Research can also be classified on the basis of evidence. In this regard, research is classified as either *conceptua*l or *empirical.* Conceptual research is that which is related to some abstract idea(s) or theory. It is generally utilized by researchers especially philosophers and thinkers to develop new concepts or to reinterpret existing ones.

On the other hand, empirical research is based on hard data consisting of hypotheses or research questions, statistical tests and conclusions which are capable of being verified. Empirical research is usually quantitative in nature and involves gathering of primary or first hand data. In this approach, the researcher first formulates working hypotheses, collects and analyzes data to confirm (accept) or reject the hypotheses. According to Kothan(2009) empirical research is appropriate when proof is required to prove that certain variables affect others in some ways. Evidence generated through empirical studies is considered to be the most powerful support for a given hypothesis.

## 3.5 Classification by Discipline

Another classification of research is by discipline. Some research studies are classified according to subject matters. In this regard, researchers talk of Medical research, Marketing research, Advertising research, Public Relations research, Legal research, Sociological research, Political Science research, Mass Media research among others.

## 3.6 Other Classifications of research

Other classification of research not yet mentioned so far in this unit includes the following:

### Triangulation

This is also referred to a "mixed methods." Johnson and Onwuegbuzie (2004) cited in the Harwell (2011) define this approach as the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study. They further explain that mixed methods research also is an attempt to legitimize the use of multiple approaches in answering research questions rather than restricting or constraining researchers choices to either quantitative or qualitative designs. The fundamental principle of mixed methods according to John and Turner (2003) cited in Harwell (2013) is that multiple kinds of data should be collected with different strategies and methods in ways that reflect complementary strengths and non-overlapping weaknesses, allowing mixed methods to provide insight not possible when only qualitative or quantitative data are collected. Wimmer and Dominick (2011:49) add that triangulation helps researchers to fully understand the nature of a research problem.

### Strategic Research

This type of research is used primarily in Public relations, Advertising, Marketing among others to determine programme objectives, develop message strategies or establish benchmark or standards. It often examines programme tools and techniques. For instance, an organisation that wants to know how employees rate its image in internal publications would first conduct strategic research to find our where it stands.

### Monitoring research.

In this type of research conducted mostly be Public Relations practitioners, a constant eye is kept on media houses and journalists to fund our any information that is likely to damage their organisations or client's reputation if it is published. Different strategies are utilized to ensure that such damaging information is not published.

Research can also be classified from the point of view of time. In this regard, we talk of *one-time* or *longitudinal* research. The former is confined to a single time period whereas in the latter case, the research is carried on over several time periods.

Research can also be classified in terms of environment or setting. In this regard, research can *field-setting* or *laboratory* research or *simulation* research. Research may also be *exploratory* or *formalized*. The objective of exploratory research is the development of hypotheses rather than their testing whereas formalized research is that with substantial structure and with specific hypotheses to be tested.

There is also *primary* or *secondary* research. Primary research in involves first hand observation and investigation by a researcher such as conducting a survey, carrying out an experiment or analyzing newspaper content. On the other hand, secondary research involves the examination of studies that other researchers have made of a subject. It is also known as *library* or *desk* research.

Research can also be classified as *conclusion-oriented* or *decision-oriented* research. The former allows a researcher to pick a problem, redesign the enquiry as he proceeds and is prepared to conceptualize as he wishes. However, *decision-oriented* research is always for the need of decision maker and the researcher in this case is not free to embark upon research according to his own inclination. Operations research is an example of decision oriented research since it is a scientific method of providing executive departments with a quantitative basis for decision regarding operations under their control.

## 4.0 CONCLUSION

In this unit. we have represented a wide variety of research methods which are available to the communication researcher. These methods may go by various names or labels but essentially the labels remain what they are but their descriptions refer to similar strategies. We have by no means exhausted all that an be said on the subject but any student who diligently follows this presentation should be able to familiarize himself or herself with the various methods of social science research of which communication research is a component.

## 5.0 SUMMARY

In this unit you have learnt that:

- Research studies are variously classified by researchers. These groupings are labels based on some common traits.
- The major classifications are philosophical approach purpose, design and evidence.
- The most important classification however is by design.
- Choice of a particular research method for any study will depend on the nature of the study and purpose. of the researcher

## 6.0 TUTOR-MARKED ASSIGNMENT

Consider the following researchable topics

i. Attitudes of Lagos State residents towards Nigerian home videos
ii. Portrayal of women in Nigeria's print media advertisements.
iii. Nigerian newspaper coverage of the 2012 Dana air crash
iv. Evolution of soft sell journalism in Nigeria.
v. An expose of corruption in the Nigeria Police Force.

Which research design will be most appropriate to study each of the topics? Justify your answers.

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## UNIT 3 SCIENTIFIC METHOD AND DEVELOPMENT OF MASS MEDIA RESEARCH

**CONTENTS**



### 1.0 INTRODUCTION

There are several ways that Man has utilized to know or understand things about the world around him or even himself. One is through direct experience which is sometimes referred to as empiricism. According to Starks and Roberts (2002), experience is often a very reliable way of knowledge. Another way of knowing is to rely on authority. Wimmer and Dominick (2011) state that this method promotes a belief in something because a trusted source says it is true. Tenacity as a method of knowing follows the logic that something is true because it has always been true. In the method of intuition or the a *priori* approach a person assumes that something is true because it is "self-evident" or "stand to reason". The next approach, the scientific method is now regarded as the principal method of knowing especially in the academic or scientific community. This is because it is considered more reliable than other methods of knowing identified so far.

**OBJECTIVES**

On successful completion of this unit, you should be able to:

- Define the concepts of science and scientific method
- Explain the tenets of science and the scientific method
- Explain the major areas of mass media research
- Discuss the major phases in the development of mass media research.

## 3.0 MAIN CONTENT

### 3.1 Definitions of Science

The word 'science' is derived from the Latin word *scientia* which literally means knowledge. However, according to the *Wikipedia* (2013) science refers to the body of reliable knowledge that can be logically and rationally explained. It is used in a broad sense to denote reliable and objective knowledge. The term science is often treated as synonymous with the natural and physical world hence most definitions of science reflect the natural or physical sciences.

*The Chambers Dictionary* 7th Edition (2009) defines science as knowledge ascertained by observation and experiment critically tested, systematized and brought under general principles, especially in relation to the physical world.

The National Academy of Science (2008) defines science as the use of evidence to construct explanations and predictions of natural phenomena as well as knowledge generated through that process.

However, a broader definition offered by the Science Council (2013) that encompasses both the physical and social sciences states that "science is the pursuit and application of knowledge and understanding of the natural and social world following a systematic methodology based on evidence.

Science can also be described as any systematic field of study or knowledge gained from it.

To be scientific, a method of inquiry or knowledge must be based on an empirical and measurable evidence subject to specific principles of reasoning. Science as it applies to the natural sciences uses mostly observation and experimentation to describe and explain natural phenomena.

**SELF ASSESSMENT EXERCISE**

Type "what is science"? in Google search engine and single out seven other sensible definitions of science.

### 3.2 Tenets of Science

According to Wimmer and Dominick (2011) there are five basic tenets or characteristics that distinguish the scientific from other methods of knowing. They are as follows:

i. *Science is collective and public knowledge*. Scientific advancement depends on freely available information. Scientists cannot plead private knowledge, methods or data in arguing for the accuracy of their findings; scientific information must be freely communicated within the scientific community.

ii. *Science is objective*. Science tries to rule out eccentricities of judgement by scientists. When a study is undertaken, explicit rules and procedures are constructed and the scientist is bound to follow them.

iii. *Science is empirical.* This means that scientists are concerned with a world that is knowable and potentially measurable. In other words, it is based on evidence

iv. *Science is systematic and cumulative.* This means that no single scientific study stands alone, nor does it rise or fall by itself. Scientists use previous studies as building blocks for their present work.

v. *Science is predictive.* This means that science is concerned with relating the present to the future.

In addition to the above tenets identified by Wimmer and Domonick (2011) we can also add the following:

vi. Science is universal. This means that scientific truths are intended to apply everywhere and not tied to individuals or group of individuals. It follows that a new finding will frequently supersede and invalidate on existing result, but this can only happen if it is consistent with previously established elements of science.

vii. Scientists seek to let reality speak for itself, supporting a theory when its predictions are confirmed and challenging it when its predictions are false.

## 3.3 **Definitions of the scientific method**

Having offered some broad definitions of science, we can now proceed to state some specific definitions of the scientific method as a body of techniques for investigating phenomena, acquiring new knowledge, or correcting and integrating previous knowledge. That is why it was previously stated that to be deemed scientific, a method of inquiry must be based on empirical and measurable evidence subject to specific principles of reasoning.

The scientific method has also been defined as "the principles and empirical processes of discovery and demonstrating considered characteristics of or necessary for scientific investigation, generally involving the observation of phenomena, the formulation of hypotheses, concerning the phenomena, experimentation to demonstrate the truth or falseness of the hypotheses and a conclusion that validates or modifies the hypotheses." (cited in answers.com). it can also be defined as the principles and procedures for the systematic pursuit of knowledge involving the recognition and formulation of a problem, the collection of data through observation and experiment, the formulation and testing of hypothesis.

The scientific method emphasizes quantification, logical exposition, empirical evidence, utilized relevant concepts, controlled empirical testing, replicability of findings, inter-subjectivity among other postulations.

Consequently, the scientific method is the most assured technique man has devised for controlling the flux of things and establishing stable beliefs. 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 the discovered facts.

What forms the core of the scientific method is the process of inquiry. Inquiry is the systematic study of experience that leads to understanding and knowledge. People engage in inquiry when they attempt to find out something in an orderly way.

**SELF ASSESSMENT EXERCISE**

Why is the scientific method better than other methods of knowing?

**3 4 Steps of the scientific method**

A careful observation of our discussion so far will reveal a close connection between the terms "science" "research" and "scientific method". They are all intricately interwoven. That is why some scholars have stated that "at the moment, the terms scientific method and research are sued interchange. This is true as the steps utilized in research are the same as those of the scientific method particularly as they apply to the physical and social sciences.

They steps of the scientific method vary from discipline to discipline and to some extent from researcher to researcher. However, the following steps are usually part of most formal scientific research:

i. Observation and formulation of topic
ii. Statement of objectives
iii. Formulation of hypothesis
iv. Operational definition
v. Review of literature
vi. Data collection
vii. Analysis of data
viii. Data interpretation
ix. Conclusion, replication if necessary
x. Publication of the study.

**3.5 Scientific method and mass media research**

As earlier indicated, the scientific method initially applied to the physical or natural sciences. It was much later that the term was applied to the study of social phenomena including communication. This explains why there are faculties of social sciences in most universities across the world.

According to Des Wilson, Esiri and Onwubere (2008), media research is the application of scientific method to the study of the the mass media. These include radio, TV, newspapers, magazines, digital media among others. One thing with media research is that it is intrusively interwoven with other disciplines. This is because the media are linked with other phenomena of life. Despite the growing complexity of media research, some areas of attention can still be clearly delineated.

Mass media research is part of the social science research tradition that was influenced by research in the natural sciences. It has, however, expanded into a discipline and field of study that deals with media content, history, media effects, new media among others. It is important to state that mass media research draws from both the quantitative and qualitative traditions of social science research.

The scientific method has been applied to several areas of mass media research but the major areas as stated by Wimmer and Dominick (2011) are as follows:

- Research in print media
- Research in electronic media
- Research in advertising and Public Relations
- Research in media effects

- Mass media research and the internet

Other areas include the following:

- Media influence
- Creative industries
- Cultural studies
- Media production (Television and film production)
- Media psychology
- Media literacy
- Media history
- Contemporary media studies which include analysis of new media with emphasis on the internet, video games, mobile devices, interactive television and other forms of mass media which developed in the 1990s.
- Media messages and their origins
- Functions and purposes of media messages
- Media channels, languages and codes
- Media content, references and information types
- Media audiences
- Effects of media messages, intended and unintended
- Media noise and feedback
- Media regulation
- Media ownership and control
- Media management

Indeed, the application of the scientific method to the study of communication has led Berger and Chaffe (1987) cited in Mc Quail (2010) to propose a new discipline referred to as "communication science" which they define as "a science which seems to understand the production, processing and effects of symbols and signal system by developing testable theories containing lawful generalizations that explain phenomena associated with production, processing and effects".

Recent conceptions of media research, however, have now broadened the scope of the field to include, for instance, perceptions of the media as instruments of power that some nations use to exploit, oppress or dominate others. This notion of media is concerned with issues such as the implications of the persistent negative portrayals of certain nations or how because of the media technology, some nations wield unfair advantages in trade, cultural and military affairs. It is also from this notion of media research that has arisen the concept of media imperialism which describes the process by which modern communication media have operated to create, maintain and expand systems of domination and dependence on a global scale.

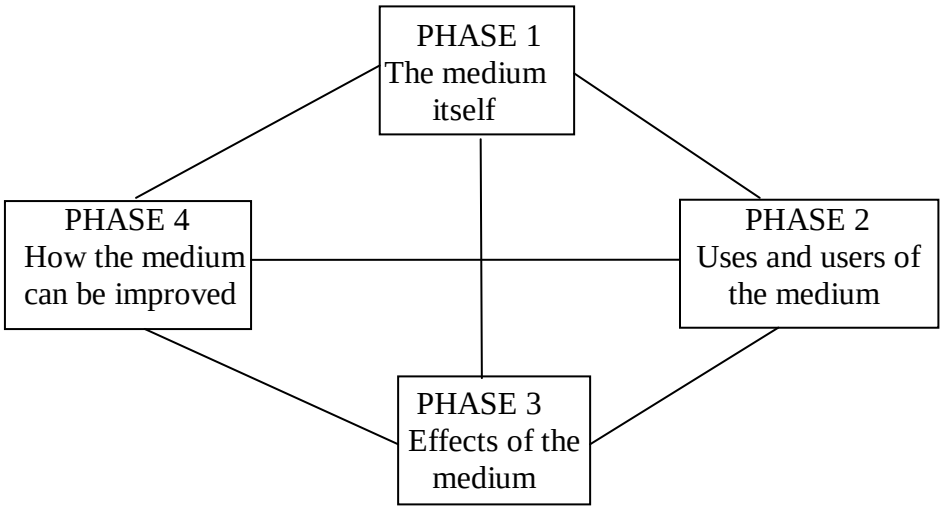
**SELF ASSESSMENT EXERCISE**

Visit any university library (conventional or virtual) and examine two projects each from the physical or natural sciences and mass communication. Compare the research procedure utilized in the two disciplines.

## 3.6 Stages in the development of mass media research

According to Wimmer and Dominick (2011: 6-9) mass media research has evolved in four definable stages and similar patterns have been followed in each medium's needs for research. These four stages are illustrated in the diagram below:

Research Phases in Mass Media




Source: Wimmer, R.W. and Dominick J. R. (2011) *Mass Media Research An Introduction*. Wadsworth Cengage Learning

In phase 1 of the research, there was an interest in the medium itself. What is it? How does it work? What technology does it involve? How is it similar to or different from what we already have? What functions or services does it provide? Who will have access to the new medium? How much will it cost? Specific information is accumulated about the uses and the users of the medium. How do people use the medium in real life? Do they use it for information only, to save time, for entertainment, or for some other reason? Do children use it? Do adults use it? Why? What gratifications does the new medium provide? What other types of information and entertainment does the new medium replace? Were original projections about the use of the medium correct? What uses are evident other than those that were predicted from initial research?

Phase 2 included investigations into the social, psychological, and physical effects of the medium. How much time do people spend with the medium? Does it change people's perspectives about anything? What do the users of the medium want and expect to hear or see? Are there any harmful effects related to using the medium? Does the technology cause any

harm? How does the medium help in people's lives? Can the medium be combined with other media or technology to make it even more useful?

In phase 3 researches were conducted to determine how the medium can be improved, either in its use or through technological developments. Can the medium provide information or entertainment to more types of people? How can new technology be used to perfect or enhance the sight or sound of the medium? Is there a way to change the content (programming) to be more valuable or entertaining?
In phase 4 studies were conducted to determine how the medium can be improved, either in its use or through technological developments.. Can the medium provide information or entertainment to more types of people? How can technology be used to perfect or enhance the sight or sound of the medium? Is there a way to change the content (programming) to be more valuable or entertaining?

## 3.7 Factors that contributed to the growth of mass media research

There are four major contributed to the growth of mass media research. According to Wimmer and Dominick (2011: 8-10) they are as follows:
The first was World War1 which promoted a need to understand the nature of propaganda. Researchers working from a stimulus – response attempted to uncover the effects of the media on people.
The second factor was the realization by advertisers in the 1950s and 1960s that research data are useful in devising ways to persuade potential customers to buy products and services. Consequently, advertisers encouraged studies of message effectiveness, audience demographics and size, placement of advertising to achieve the highest level of exposure, frequency of advertising necessary to persuade potential consumers and selection of the medium that offered the best chance of reaching the target audience.

The third factor was the increasing interest of citizens in the effects of the media on the public, especially on children. The direct result was an interest in research related to audience and sexual content on television programmes. The fourth factor was the increased competition among the media for advertising revenue. Media managers are now sophisticated and use long range plans, management by objectives and an increasing dependency on data to support the decision-making process.

## 4.0 CONCLUSION

The scientific method is now widely applied in mass media research because of its reliability and objectivity. Accordingly, mass communication students must know how to apply it in their own research projects. However, as reliable as it is, it should be noted that it is not infallible.

## 5.0 SUMMARY

In this unit, you have learnt about the following:

- Science and its characteristics
- The scientific method and its basic postulates
- Steps of the scientific method
- Application of scientific method to mass media research
- Areas of mass media research

- The four definable stages of mass media research.

## 6.0 TUTOR MARKED ASSIGNMENT

What is communication research? State the factors that led to its development as well as ten areas of communication research.

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## MODULE 2 ELEMENTS OF RESEARCH



## UNIT 1 CONCEPTS, CONSTRUCTS, HYPOTHESES/RESEARCH QUESTIONS AND INSTRUMENTATION

**CONTENTS**

## 1.0 INTRODUCTION

In any research and most especially communication research, there are some issues, ideas or terms that are common. These elements are indispensable to research endeavour. Without them it will be difficult to embark on any research.

## 2.0 OBJECTIVES

The major objective of this unit is to expose the student to the various research elements available. Ability to understand these elements will help you to appreciate the value of the research work you are conducting. Also, the knowledge of what a concept means will enable you determine and explain these elements in your own research work.

By the time you are through with this unit you should be able to define and explain the following:

- Concepts;
- Constructs;
- Research Questions;
- Hypotheses; and
- Research instruments.

## 3.0 MAIN CONTENT

### 3.1 Concepts

Some scholars have defined and described the term concept in different ways. Some of them see it as the basic building block or idea of theory and research. According to Kerlinger, (2000) cited in Des Wilson, Esiri and Onwumere (2008), a concept is "a term that expresses an abstraction (abstract idea) formed by generalizations from particulars". According to him, a concept is formed by summarizing related observations. He gives examples of concepts as "weight", "height", "length" and "achievement". Similarly, LeRoy and Corbet (2006) define concept as "an abstraction based on characteristics of perceived reality". Concept can also be described as mental boxes into which we throw things that we think have important things in common—categories.

From the above definitions, a concept may be described as a way of ascribing meanings to observed phenomenon in the society. Concepts are important because according to Wimmer and Dominick (2011: 43) they facilitate communication among those who have a shared understanding of them. Researchers use concepts to organize their observations into meaningful summaries and to transmit this information to the academic community. In addition, since concepts are abstracted from observations, they enable researchers to look for general explanations or patterns in observations.

In the field of mass communication there several concepts some of which include media broadcasting, advertising, image, media relations, editorial, news, feature, junk journalism, celebrity journalism, citizen journalism, brand, cultural imperialism, audience among others. In fact, mass communication can be described as a discipline that is filled with concepts.

White (1990) probably has mass communication in mind when he stated that concept is a label we put on a phenomenon that enables us to link separate observations and to make generalizations… a name we give to observations and events.

**SELF-ASSESSMENT EXERCISE**

List 20 concepts and in mass communication and explain what they mean.

## 3.2 CONSTRUCT

Construct has been described as higher concept. According to Wimmer and Dominick (2011), a **construct** is a combination of concepts created for a particular scientific purpose. Constructs are generally difficult to observe directly; their existence therefore must be inferred from related behaviour patterns. Therefore, the difference between concepts and constructs lie in their observable properties. A construct provides an efficient and convenient method for labeling a number of similar behaviors. Through the use of constructs, the observer can begin to classify and group instances of similar behavior and communicate its impact in terms of what has been observed.

In philosophy, a construct is regarded as an *ideal* object, where the existence of the thing may be said to depend upon a subject's mind. In other words, existence of a construct is in the mind of the person who is making the construct no body else can see it or feel it except, the originator of the constructs. This is opposed to a "*real*" object, where existence does not seem to depend on the existence of a mind because everybody can see it or experience it.

For example, media imperialism is a construct that depend on the creator for its explanation for others to understand what is been said, otherwise, nobody can see what is called media imperialism.

The main difference between concepts and constructs are as follows:

- Concepts are mental representations and are typically based on experience
- concepts can be of real phenomena (a radio set, magazine, advertisement)
- Concepts can be of agreed-upon phenomena (truth, beauty, justice, prejudice, value among others.)
- Constructs are theoretical creations that are based on observations but which cannot be seen either directly or indirectly; things such as IQ, leisure job satisfaction, edutainment, infotainment among others

For example, in mass communication research, the term media hegemony represents a construct specifically created to describe how mass media business is concentrated in the hands of few powerful interests. Media hegemony itself cannot be seen, but its manifestations in the conglomeration of global mass media business are evidenced around Western countries.

It is important to note that the major difference between concepts and constructs is that constructs are **higher concepts**.

**SELF-ASSESSMENT EXERCISE**

Enumerate five other constructs in mass communication and state how they can be measured.

## 3.3 RESEARCH QUESTIONS/HYPOTHESES

The pillar upon which any research work stands upon is research questions. In every research endeavors, the aim is to accomplish either/or, and these two things:

i) Answer questions or
ii) Test hypotheses

It is generally said that no research can exist without a problem and to solve this problem is to ask relevant questions or formulate hypothesis that will help provide basis for arriving at solutions. The bedrock of research is to answer as many questions as possible. To begin a research without research questions or hypotheses is like starting a journey without a defined place to begin the journey (Wilson, Esiri and Onwumere, 2011).

Research utilizes a variety of approaches to help answer questions. While some researchers seek to solve relatively simple problems, some are based on theory and they require formally worded questions. Similarly, research generally starts with some tentative generalizations regarding a relationship between two or more variables. These generalizations may either be **research questions** and/or **hypotheses**.

### 3.3.1 Research question

A research question is stated as a question that explores the relationship between two or more variables/concepts. Researchers abbreviate research questions as RQ.

According to Ajala (1996:20), research questions are generally used in situations where a researcher is unsure about the nature of the problem under investigation. Therefore, research questions have the widest application and can best be employed in dealing with problems of a non-experimental nature. When research questions are posed, the intent is merely to gather preliminary data from which testable hypotheses are often developed.

### 3.3.2 Hypothesis

There are several ways of defining hypothesis. It can be defined as " a tentative prediction about the nature of the relationship between two or more variables." Sarantakos (1993) defines it as a "tentative explanation of the research problem, a possible outcome of the research, or an educated guess about the research outcome." Similarly, Macleod and Hockey (1981), define hypothesis as a statement or explanation that is suggested by knowledge or observation but has not yet been proved or disproved. Hypotheses are always in declarative sentence form, and they relate either generally or specifically to variables.

Hypothesis states a predicted relationship between two or more variables or concepts. Researchers abbreviate hypotheses as H. Hypothesis can further be described as statements concerning two or more variables to find out their relationship. Hypotheses could be a fact or body of facts which a researcher wants to find out their relationships. Des Wilson, Esiri and Onwubere, (20o8) assert that the hypothesis is a clear statement of what is intended to be investigated. It should be specified before research is conducted and openly stated in reporting the results. This helps to:

1. Identify the research objectives
2. Identify the key abstract concepts involved in the research
3. Identify its relationship to both the problem statement and the literature review

The nature of hypothesis include the following:

- A problem cannot be scientifically solved unless it is reduced to hypothesis form
- It is a powerful tool of advancement of knowledge, consistent with existing knowledge and conducive to further enquiry
- It can be tested –verifiable or falsifiable
- Hypotheses are not moral or ethical questions
- Hypothesis is neither too specific nor too general
- It is a prediction of consequences
- It is considered valuable even if proven false

A well-crafted hypothesis most often suggests the best way to perform the research and gives the researcher clues as to his research design. Hypotheses can either be deductive or inductive. Research Hypothesis can also be either non-directional or directional. There is also hypothesis that is opposite of the positively stated one known as the null hypothesis.

A null hypothesis represents the traditional approach: it makes a prediction that in the general population, no relationship or no significant difference exists between groups of a variable. The wording is, "There is no difference (or relationship)" between the groups." Usually, a null hypothesis is always written like this: There is no significant difference between the effects of watching television and exhibiting violent behaviour".

Once the null hypothesis is known, the alternative hypothesis will be discarded. According to Kerlinger (2000) " the hypothesis is perhaps the most powerful tool, man has invented to achieve dependable knowledge"

**Differences between research questions and hypotheses**

Though research question and hypothesis serve the same purpose, their differences necessitate using either in a particular research type. In general, quantitative research favors the hypothesis while research question is preferred in qualitative research (Prasad, 2001). Below are other differences between hypothesis and research questions:

1. Hypothesis is predictive in nature and predicts relationship between variables
2. Hypothesis is more specific than research question
3. Research question poses a question while hypothesis predicts the outcome of the research

Research questions and hypotheses are like "signposts" for explaining the purpose of the study and guiding the research directions.

**Advantages of hypotheses**

In almost all situations, hypotheses provide researchers with the following advantages:

1) They provide direction for a study.

2) They eliminate trial and error i. e. uncoordinated investigation of a topic

3) Hypotheses help rule out intervening and confounding variables i. e. they focus research to precise testable statements.

4) Hypotheses allow for quantification of variable i.e. they make operationalization of concepts easier and words incapable of quantification are excluded.

**Characteristics of useful hypotheses**

According to Wimmer and Dominick (2011), a useful hypothesis should possess four characteristics. These are:

(1) Compatible with current knowledge in the area

(2) Should follow logical consistency

(3) Should be in parsimonious (simple) form

(4) Should be testable.

When they say a hypothesis must be compatible with current knowledge, it means that the researchers who develop hypotheses must provide basis to support the hypothesis, else, he/she slows down the development of that area. On logical consistency, this means that if a hypothesis suggests that A = B and B = C, then A must be equal to C. For instance, if watching violence movie regularly implies the exhibition of violence behaviour, then, those who watched violence prone movies should exhibit greater violent behaviour.

On the criterion of parsimony, because of the complex and the complicated nature of research, the formulation of hypothesis should be simple and presented in a straight forward manner. Therefore, it is better to state hypotheses in simple form and contribute to making the research process simpler than to write hypothesis in complicated form. Developing untestable hypotheses is unproductive and such adds nothing to knowledge.

**Types of hypotheses**

There are three types of hypotheses. These are:

(1) Descriptive hypotheses

(2) Comparative hypotheses

(3) Relational hypotheses

In *descriptive* hypothesis, there is just one variable and it merely describes an action. For example: more female will watch tele-novena. This hypothesis only describes what female

audience will watch on television. Comparative hypotheses look at the similarities or differences between variables being tested. For example, male readers read football magazines than female readers. Relational hypotheses examine the relationship between the variables being tested i.e. it examines whether the variables are directly or inversely related (see Figure 1 below):

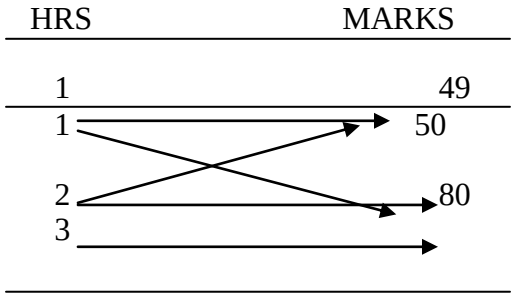


***Figure 1: Hours of books read and marks scored***

***Key: HRS – Hours***

Under normal circumstances, he who spends more time reading should score more marks (Direct relationship). But where he who spends less time reading had more marks (inverse relationship). The variables being tested are hours spent reading and marks scored.

Hypotheses are given different names. These are:

1) Research hypotheses H
2) Alternative hypotheses H1
3) Null hypotheses HO

Note that each is put into different but related uses. For example:

HI: People with low level of education will have low credibility in the media.

HA: People with high level of education will have high credibility in the media.

HO: There is no relationship between education and media credibility.

Note that it is the null hypotheses (HO) that is tested. HO is either accepted or rejected. In practice, researchers rarely state the null hypotheses, since every research hypothesis does have its logical alternatives. Therefore, stating the null hypothesis is redundant. However, the HO is always present and it plays important role in the rationale underlying hypotheses testing. In testing hypothesis or what can otherwise be called significance test, the researcher either rejects or accepts the HO. Note that if HO is accepted (supported) H1 is rejected; and if HO is rejected, H1 is accepted.

Ajala (1996:21) advises beginners to employ research questions rather than hypotheses. The questions must be designed in such a way that findings can be measured so that conclusions can be drawn from the study.

Hypothesis testing involves a four-step procedure:

1. Stating the hypothesis (Null or Alternative)

2. Setting the criteria for a decision

3. Collecting data

4. Evaluate the Null hypothesis

**SELF-ASSESSMENT EXERCISE**

Consider the following research topic and formulate four hypotheses; "Perception of Nigerian videos among Nigerian academics."

**Instrumentation**

One of the most important aspects of research design is the research instrument to be used. The goal of research is to obtain appropriate data, interpret same and point out implications. The instruments are ways of gathering data to be used in the research work, without which there can

be no data for the research work. The instrument or tool chosen should be adequate in providing the needed data.

Among the available instruments for data collections in communication research are:

1. Questionnaire: this is the most common research instrument for obtaining data. It could be close ended or open ended.
2. Interview: is an oral form of questionnaire
3. Coding sheets (for content analysis)

What ever instrument is adopted, it is important to know that it must be appropriate for the purpose and objectives of the study.

## CONCLUSION

The first step is making a success of your research endeavour is to understand the various elements of research discussed in this unit. Irrespective of the textbook you pick up, you'll find each of them. Your effort to embark on research will fail if you do not master all the topic treated in this unit.

## 5.0 SUMMARY

In this unit, you have learnt that:
A concept is a term that expresses an abstraction formed by generalization from particulars;
A construct is a higher concept deliberately invented for a specific scientific purpose;
·A research question is stated as a question that explores the relationship between two or more variables while hypothesis is a measurable and testable statement about the relationship between variables;
Instrumentation is the device or method used to collect data.

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## .6.0 TUTOR-MARKED ASSIGNMENT

Distinguish between research questions and hypotheses and develop three research questions and three hypotheses in any area of mass communication.

## 7.0 REFERENCES/FURTHER READINGS

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**UNIT 2**

**VARIABLES**

**CONTENTS**



## 1.0 INTRODUCTION

Variable is a term constantly used in research and more specific communication research. It represents concept or construct that can be measured or calculated in research. The opposite of variable is constant as it has only one attribute and does not change in value. A variable on the other hand has attributes, that is. characteristics used to describe the unit of observation.

## 2.0 OBJECTIVES

By the end of this unit, you should understand the following:

- the definition and meaning of variables;
- types of variables;
- the importance of variables in research; and
- how to define variables operationally.

### 3.1 **Definition and Meaning of Variable**

One term that you will hear being used quite frequently in research is **variable**. A variable is a concept or construct that can vary or have more than one value. Some variables can be quite concrete such as gender, birth order, weight, or shoe size. Others can be considerably more abstract, vague, and squishy. For example, sense of well being, self-esteem, strength of belief in religion, or IQ (University of New England, 2000). Also, the National Service-Learning clearing house (2013) opines that the important step in designing all quantitative research projects is defining or identifying the variables that will be manipulated, measured, described, or controlled. Although qualitative researchers do not define variables to the same extent that quantitative researchers do, they still must outline what kinds of phenomena they are studying.

A variable can be defined as anything that varies or changes in value. Variables take on two or more values .A variable is a measurable characteristics that varies. It may change from group to group, person to person or within one person over time].

### 3.2 **Major Classification of Variables**

Variables could be classified into various forms. The major types of variables, or phenomena of interest, are described briefly, with common examples from service-learning research provided. They are as follows:

- **Independent Variable (IV)**: A variable that is selected or controlled by the researcher, to determine its relationship to the observed outcome of the research (this can also be known as explanatory, predictor, or manipulated variable). A common example is whether or not a course section involves service-learning pedagogy. The nature of what is varied should be carefully described so that the attributes of the different interventions or experiences are clear. It is also important to note that in statistical analysis a variable is identified by the symbol (X) for independent variable
- **Dependent Variable (DV)**: The variable being measured as an outcome. It shows the effect of manipulating or introducing the independent variables. This "control" may involve manipulating existing variables (e.g., modifying existing methods of instruction) or introducing new variables (e.g., adopting a totally new method for some sections of a class) in the research setting. Whatever the case may be, the researcher expects that the independent variable(s) will have some effect on (or relationship with) the dependent variables.

- **Intervening Variables**: also known as Mediating variable. Is an ideal that seeks to explain the relationship between the independent and dependent variables. Mediating variables, also called process variables, explore why the independent variable is linked to the dependent variable [National Service-Learning clearing house].

### 3.3 Other categories of Variables

- **Moderator Variable**: A variable that is related to the direction or strength of the relationship between the independent and dependent variables (Baron & Kenny, 1986). A moderator variable may be qualitative (such as student gender, type of community organization, or type of college) or quantitative (e.g., number of service visits). In addition, it may be related to the strength or the direction of a correlation, or it may interact with the independent variable and the dependent variable. In either case, a moderator variable describes an "it depends" relationship (e.g., the strength of the correlation between two variables depends on the past volunteer experience of the student). Generally, moderator variables are variables that exist prior to data collection, as opposed to mediating variables that are assumed to occur during the phenomena being studied.

**Continuous and Discontinuous variables**

Variables have different properties and to these properties we assign numerical values. If the values of a variable can be divided into fractions then we call it a ***continuous variable***. Such a variable can take infinite number of values. Income, temperature, age, or a test score are examples of continuous variables. These variables may take on values within a given range or, in some cases, an infinite set.

Any variable that has a limited number of distinct values and which cannot be divided into fractions, is a **discontinuous variable**. Such a variable is also known as categorical variable or classificatory variable, or discrete variable [**Research Methods STA 630, n.d]**.

**SELF-ASSESSMENT EXERCISE 1**

Why is the understanding of variables important in communication research?

**3.4 Defining variables operationally (operational Definitions)**

An operational definition describes exactly what the variables are and how they are measured within the context of your study (Cherry, 2013). There are two types of operational definition as stated by Wimmer and Dominick citing Kerlinger (2010)- measured and experimental. A measured operational definition specifies how to measure a variable. An experimental operational definition explains how an investigator has manipulated a variable.

The way one research defines variables is likely to be different from the way another researcher will use that same variable.

**4.0 Conclusion**

An understanding of variables is important for the success of any research. It is also important to differentiate between the dependent and independent variables and to understand that the intervening variables could be a hindrance between the dependent and independent variables.

**5.0 Summary**

In this unit you have learnt about the two major variables in research- dependent and independent variables and also other variable types.

You have also learnt that is it important to define your variables in relation to your research work.

**6.0 Tutor-Marked Assignment**

Choose a research title; write an operational definition for each variable on your list of independent and dependent variables.

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**UNIT 3**

**MEASUREMENT**

**CONTENTS**



## 1.0. Introduction

This unit focuses on measurement in research. Our life is full of measurements at one point or the other- when we go to the hospital we measure our height, weight, temperature as the case may be. In order to wear what fits us appropriately, we also undergo measurement. To get the right clothes for our body type and size, we check our body measurement and to get the right size of shoe we also have to measure different ones to get the perfect fit.

There are other aspects of life in which we must take measurements- even when purchasing food items we must take measurements.

## 2.0. Objectives

At the end of this unit, you should know the following:

- the meaning of measurement in communication research;
- the elements that are measured in communication research;
- the four levels of measurement that can be undertaken by researchers;
- various scales of measurement; and
- what is meant by scales and indexes in communication research

## 3.0 MAIN CONTENT

### 3.1 Definitions/Meaning of Measurement

In research, it is imperative for respondents to communicate their feelings, attitudes, opinions, among others in measurable form.

As stated in ZSeepedia.com, to measure "is to discover the extent, dimensions, quantity, or capacity of something, especially by comparison with a standard."
Tejumaiye (2003 :20) asserts that measurement is the assignment of numerals to objects, events, or properties according to certain rules. According to Zeepedia.com, "objects include things that are not as concrete, such as genes, attitudes, neutrons, and peer group pressures. Properties are the characteristics of the objects. A person's physical properties may be stated in terms of weight, height, and posture. Psychological properties include attitudes, intelligence, motivation, perceptions, etc. Social properties include leadership ability, class affiliation, or status."
Tejumaiye (2003) adds however that, researchers usually measure indicators of the properties or objects rather than the individuals or objects themselves. For example the term motivation can hardly be measured, also authoritarianism, but there can be observed and measured from presumed indicators.
While it is easy to measure some properties, some others are not easy to measure.
According to Wimmer and Dominick (2011) in measurement, a researcher assigns numerals to objects, events or properties according to certain rules. Three concepts can be found here- numerals, assignment, and rules. Numerals have no direct quantitative meaning, but when meaning is assigned to them, they are subject to statistical computation. Assignment is the designation of numerals or numbers to certain objects or events for example assigning 1 to respondents that fall between 15-20 years, 2 for those between 21-30 years and 3 for those between 31-40 years and so on.
Rules have to do with the way the numerals or numbers are assigned.

### 3.2 What is Measured in Communication Research

Communication is classified in the behavioural sciences and as such one of the concepts usually measured is attitude, perception etc. That is a researcher might want to find out the attitude of respondents to programmes on television if it is positive as in that they like it or negative, meaning they do not like it or they are indifferent, neither here nor there.

### 3.3 Levels of Measurement

Trochim (2006) gives reasons why it is important to know the level of measurements. First he posits that knowing the level of measurement helps you decide how to interpret the data from that variable. Second, knowing the level of measurement helps you decide what statistical analysis is appropriate on the values that were assigned.
There are four levels of measurement as follows:

- Nominal
- Ordinal
- Interval

- Ratio

**Nominal Level**
According to Wimmer and Dominick (2011) this is the weakest form of measurement. Nominal scale classifies people, objects, events based on certain characteristics. Here the numeral used to classify objects are arbitrary and do not have any mathematical value.

Nominal data deals with names, categories, or labels. It has to do with classifying case unordered groups. This means that it is not because a person or something is classified as 1 then it is higher than the one classified with 5. For example using beverages as example, we have *Milo, Bournvita, Richoco, Vitali, Cowbell chocolate* etc. a researcher to find out the one most preferred by respondents could assign the number 1 to *Milo*, 2 to *Bournvita*, 3 to *Richoco*, 4 to *Vitali*, 5 to *Cowbell chocolate*, he or she could also decide to arrange it another way maybe alphabetically and assign numbers. It does not mean that because *Milo* is given 1 then it is better than *Cowbell choco* neither does it mean that because *Cowbell choco* is number 5 then it is 5 times better than *Milo* that is 1. Some examples of nominal measurement according to Wimmer and Dominick (2011) are numbers on football jerseys, car plate numbers, social security numbers, and Tejumaiye (2003) adds that classifying respondents according to the medium they depend on for information could also be nominal. Other examples are religious preference, political orientation).

Some characteristics of nominal data are that it has properties of equivalence this means that all objects placed in one category are equal. Another property is that all categories are exhaustive and mutually exclusive that is that each object is appropriate to only one category for example somebody cannot be old and young at the same time, male and female at the same time, Christian and Muslim at the same time, one must belong to only one category.

**Ordinal level**
Ordinal is similar to nominal but it is different in that it has an ordering scheme. Objects are usually ranked along some dimension, from smallest to largest. While data at this level is ordered, it cannot be determined the difference between the given data. Ordinal has to do with ranking. Here the numbers have some mathematical value meaning that when an object is placed at 1 it could be higher than an object placed in category 5. For example using educational attainment- primary=1, secondary=2, bachelors=3, Masters=4, post-masters=5 etc. While we can determine which is highest we cannot say the distance between 1 and 2 or 4 and 5. Ordinal measurement is also likened to a horse race without stop watch where you can determine who came first and second but cannot determine the difference in time between the winner and the runner-up.
Some characteristics of the ordinal scale are that it has the property of equivalence in that all objects or persons placed in one category are equal and treated equally. It also possesses the property of order among categories. Some examples of ordinal scale are rankings of football teams, military ranks, beauty pageant results etc.

**Interval level**
The interval scale of measurement includes all the characteristics of the ordinal level and also specifies the difference between values is a constant size. It has all the scales of an ordinal

measurement and the intervals between adjacent points are of equal value. The most common example of an interval scale is temperature, according to Wimmer and Dominick (2011) the same amount of heat required to warm an object from 30 to 40 degrees is the same needed to warm it from 50 to 60 degrees.
One of the shortfalls of the interval scale is that it lacks a true zero point or a condition of nothingness.

**Ratio level**
This has all the properties of an interval scale and has an absolute zero that is meaningful. This is the highest level of measurement. Time and distance are examples of ratio measure.
As stated in FAO corporate document repository, some examples of variables which are ratio scaled include weights, lengths and times. Ratio scales permit the researcher to compare both differences in scores and the relative magnitude of scores.

### 3.4 Scales and Indexes

Crossman (2013) defines a scale as "a type of composite measure that is composed of several items that have a logical or empirical structure among them." An index on the other hand as defined by Crossman (2013) is "a type of composite measure that summarizes and rank-orders several specific observations and represents some more general dimension." "It is an accumulation of scores from a variety of individual items" (Crossman, 2013).
As defined in wikibooks.org, a *scale* "is a measure of the intensity of an attitude or emotion. Usually scales are constructed using the ordinal level of measurement, which organizes items in an order in order to determine degrees of favor or disfavor, but does not provide any meaning of distance between degrees

to Wimmer and Dominick (2011 :53), measurement of variables such as attitude toward TV news or gratification received from going to a movie theatre require the use of scales.

Crossman (2013) further explains the similarities between scales and indexes. A scale is similar to index in that they are both ordinal measures of variables. That is, they both rank-order the units of analysis in terms of specific variables. Both scales and indexes are composite measures of variables, meaning that the measurements are based on more than one data item. For example, to test a person's motivation, it will be determined by his or her responses to many questions, not simply one question. (Crossman, 2013).

There are different types of scales but the most commonly used is the Likert scale.

### 3.5 Types of Scales

Some scales used in social science research include the Likert scale, Thurstone scale, Guttman scale, Bogardus social distance scale, and the semantic differential scale among others.

**Likert scale**
This is the most commonly used scale in mass media research and is also called summated rating approach (Wimmer and Dominick, 2011). This technique assesses the extent of the subject's agreement with items that have been judged (by some method) to have content validity with the construct being measured..

"The scale consists of assigning a numerical value to intensity (or neutrality) of emotion about a specific topic, and then attempts to standardize these response categories to provide an interpretation of the relative intensity of items on the scale." Responses such as "strongly agree," "moderately agree," "moderately disagree," and "strongly disagree" are responses that would likely be found in a Likert scale, or a survey based upon the scale.

Example: Adolescents prefer sexual contents in Nigerian home videos

| Response | Score assigned |
|---|---|
| Strongly agree | 5 |
| Agree | 4 |
| Indifferent/Neutral | 3 |
| Disagree | 2 |
| Strongly Disagree | 1 |

This technique can be used to ask many questions in a short amount of space (mailed survey) or time (telephone survey). It is also intuitively appealing to most persons. However, it can become tiresome if used too extensively on a questionnaire

**Guttman scale**
This is also called scalogram analysis. It is a technique of mixing questions up in the sequence they are asked so that respondents do not see that several questions are related. Many irrelevant questions surround the important questions

Wimmer and Dominick (2011:55) assert that it is based on the idea that items can be arranged along a continuum in such a way that a person who agrees with an item or finds an item acceptable will also agree with or find acceptable all other items expressing a less extreme position."

It is based upon the assumption that the agreement with the strongest indicators also signifies agreement with weaker indicators. It uses a simple "agree" or "disagree" scale, without any variation in the intensities of preference. The scoring system is based on how closely they follow a pattern of ever-increasing hardened attitude toward some topic in the important questions. Guttman scaling is very appealing, but it's not all that well received by the scientific community *(*www.uky.edu/~kdbrad2/EDP656/Handouts/Chapter6B.doc*)*.

**Thurston scale**
This is used for measuring a core attitude when you have multiple dimensions or concerns around that attitude. This scale is a format that seeks to use respondents both to answer survey questions, and to determine the importance of the questions. One group of respondents, a group

of "judges," assigns various weights to different variables, while another group actually answers the questions on the survey.

Wimmer and Dominick (2011) asserts that it is also called equal-appearing interval scales because the technique used to develop them are typically used to measure the attitude toward a given concept or construct.

The procedure for Thurstone is illustrated below according to www.uky.edu/~kdbrad2/EDP656/Handouts/Chapter6B.doc

> In Thurstone scaling, the researcher would obtain a panel of judges (say 100 of them) and then dream up every conceivable question you can ask about gun control (say 100 questions). By administering that questionnaire to the panel, the researcher can analyze inter-item agreement among the judges, and then use the discrimination index to weed out what are called the non-homogenous items. Scaling is all about *homogeneity*, a term sometimes used as synonymous with being unidimensional. Using Thurstone scaling, you actually want to favor your brighter respondents and look for higher-scoring items. You will most likely end up with a scale of 15-20 homogeneous and unidimensional items.

One of the advantages of this type is that it is an interval measurement scale; on the other hand, it is time consuming and labour intensive.

**Semantic differential scale**

This technique assesses the extent of the subject's agreement with items, where the response for each item is shown on a continuum). This technique is used to measure the meaning an item has for an individual (Wimmer and Dominick, 2011 p.56). It is developed to deal with emotions and feelings. It's based on the idea that people think dichotomously or in terms of polar opposites such as good-bad, right-wrong, strong-weak among others.

As adapted from www.uky.edu/ below is an example of a scale intending to measure feelings toward rap music as a cause of crime:

*On each line below and between each extreme, place a slash closest to your first impression:*
HOW DO YOU FEEL ABOUT THE ARGUMENT THAT RAP MUSIC CAUSES CRIME?

Bad----------Good
Deep----------Shallow
Weak----------Strong
Quiet----------Loud
Modern----------Traditional
Simple----------Complex
Fast----------Slow
Dirty----------Clean

While this technique can be used to ask many questions in a short amount of space and can be intuitively appealing to most persons, it can however be tiresome if used too extensively on a questionnaire and sometimes can be difficult to label the end-points of a semantic scale.

**SELF-ASSESSMENT EXERCISE 1**
What are the similarities between scales and index?
Why must researchers understand levels of measurement?

### 3.6 Indexes

"An index is a set of items (questions) that structures or focuses multiple yet distinctly related aspects of a dimension or domain of behaviour, attitudes, or feelings into a single indicator or score). As stated in *Wikibooks.org* "indexes are a sum of series of individual yes/no questions, that are then combined in a single numeric score. They are usually a measure of the quantity of some social phenomenon and are constructed at a ratio level of measurement).

Indexes are usually at the ordinal, but mostly interval level. Using this example as adapted from Crossman (2013); for instance, to measure job satisfaction as a concept and job-related depression as one of the key variables, it would be difficult to measure with just one question. This means that the researcher has to create several questions that deal with job-related depression and create an index of the included variables. Let's say we have four questions to measure job-related depression, each with the response choices of "yes" or "no":

- "When I think about myself and my job, I feel downhearted and blue."
- "When I'm at work, I often get tired for no reason."
- "When I'm at work, I often find myself restless and can't keep still."
- "When at work, I am more irritable than usual."

The next thing will be to create the index of job-related depression by collating the responses, find out how many questions had Yes as answer and how many had No. If the Yes is more than the No maybe like 3 out of the 4 questions, it means that the index score is 3, meaning that job-related depression is high. If a respondent answered "no" to all four questions, his or her job-related depression score would be 0, indicating that he or she is not depressed in relation to work.

### 3.7 Reliability and Validity

To achieve its purpose, every measurement scale must two qualities- validity and reliability.
The relevant questions to raise are "how do we know that we are indeed measuring what we want to measure?" since the construct that we are measuring is abstract, and "can we be sure that if we repeated the measurement we will get the same result?". The first question is related to validity and second to reliability. Validity and reliability are two important characteristics of behavioural measure and are referred to as psychometric properties).

According to Howell et al (2012) **"**while reliability is concerned with the accuracy of the actual measuring instrument or procedure, validity is concerned with the study's success at measuring what the researchers set out to measure."

**Reliability**

An instrument can be said to be reliable if it constantly gives the same answer to an issue. According to Wimmer and Dominick (2011 p.58) reliability consists of three different components- stability, internal consistency and equivalency. Stability refers to the consistency of a result or of a measure at different points in time. Internal consistency involves examining the consistency of performance among the items that compose a scale. Equivalency sometimes referred to as cross-test reliability assesses the relative correlation between two parallel forms of a test.

"Measurements are reliable to the extent that they are repeatable and that any random influence which tends to make measurements different from occasion to occasion or circumstance to circumstance is a source of measurement error." It is also "the degree to which a test consistently measures whatever it measures." Errors of measurement that affect reliability are random errors and errors of measurement that affect validity are systematic or constant errors.

**Validity**

An instrument is valid when it measures what it is supposed to measure. There are four major types of validity- face validity, predictive validity, construct validity, and concurrent validity.

**Face validity** is examining the measuring instrument to see whether on the face it measures what it appears to measure. **Predictive Validity** also called Criterion-Oriented validity is checking a measurement instrument against some future outcome. It is when you are expecting a future performance based on the scores obtained currently by the measure, correlate the scores obtained with the performance. The later performance is called the criterion and the current score is the prediction. This is an empirical check on the value of the test – a criterion-oriented or predictive validation). For **Concurrent validity** the measuring instrument is checked against some present criterion (Wimmer and Dominick, 2011). It is the degree to which the scores on a test are related to the scores on another, already established, test administered at the same time, or to some other valid criterion available at the same time.

**Construct validity** is adjudged the most complex (Wimmer and Dominick, 2011). Construct validity is the degree to which a test measures an intended hypothetical construct. It involves relating a measuring instrument to some overall theoretical framework to ensure that the measurement is logically related to other concepts in the framework (Wimmer and Dominick, 2011 p.60). Howell et al (2012) further assert that "construct validity seeks agreement between a theoretical concept and a specific measuring device or procedure. For example, a researcher inventing a new IQ test might spend a great deal of time attempting to "define" intelligence in order to reach an acceptable level of construct validity."

There is also content validity, and this is "based on the extent to which a measurement reflects the specific intended domain of content (Howell et al, 2012).

**4.0 Conclusion**

Concepts, constructs and variables must be understood in the context of the research if it must accomplish its purpose. While taking an appropriate measurement scale and instrument, it is also important that the instrument is reliable and measures what it purports to measure.

## 5.0 Summary

In this unit, you have learnt about the four levels of measurement- nominal, ordinal, interval and ratio and why it is important to understand measurement. Also the different scales of measurements used in social science research- Likert, Thurston, Guttman, Semantic differential.

## 6.0 Tutor-Marked Assignment

1. Develop a measurement technique to examine each of these concepts:

- Television viewing
- Newspaper reading

2. What type of data is associated with each of the following concepts:

- Beauty pageants
- Basket ball standings
- Dress size
- Time and distance
- Football jerseys

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## MODULE 3: MAJOR COMMUNICATION RESEARCH METHODS

**Unit 1 Experimental Research**

**Unit 2 Survey Research**

**Unit 3 Content Analysis**

**Unit 4 Other Methods**

## UNIT 1 EXPERIMENTAL RESEARCH

**CONTENTS**

### 1.0 Introduction

The experimental method of research is one of the oldest research designs used in the field of mass media research and it serves as a means of providing a wealth of information for researchers and critics alike. Despite the fact that it is the oldest, it is used infrequently in mass media research; however, its popularity has risen in recent years (Wimmer & Dominick, 2011:239). Hence, the need for students of mass communication to know what this research design/approach is all about.

### 2.0 Objectives

This unit is written so that at the end, you should be able to:

- Know, define and explain what experimental research is;
- Identify the purpose(s) of experimental research;
- Know the experimental research designs and the structure of an experiment; and
- Identify and understand the types of experimental research.

### 3.0 MAIN CONTENT

### 3.1 Definition of Experimental Research

Whenever the word 'experiment' comes up, it is usually thought of as something that is done in the natural sciences or in a scientific setting. However, it is something that is carried out even in non-scientific setting and something we do on a regular basis in our natural setting. The word "experimentation" is derived from the Latin word *experiri* which means "to try" and since we all try out different things in our day-to-day lives, this implies that we are consciously or unconsciously involved in the experimentation process. For instance, in preparing stew or any kind of food in general, we add salt, taste, add more salt and taste again to determine whether or not we have achieved the desired result (Babbie, 2010:231).

At the most basic level, an experiment according to Babbie (2010:231) is a process that involves taking action and observing the results of the action taken. It is a type of test that is conducted to show that a proposition is true, to examine the validity of a hypothesis, to discover something new or something we were not aware of before as well as usefulness of something that has never been used before (Onabajo, 2011:83). It is an orderly procedure or process that is carried out with the aim of falsifying or verifying as well as establishing the validity of a hypothesis. Normally, experiments are conducted so as to get a broader and generalized understanding of the world we live in, even children carry out experiments in order to better understand the world they live in.

### 3.2 Purpose of Experimental Research

According to Onabajo (2011:84), the purpose of the experiment "is to make sure that the findings are valid and that the observed effects on the experimental group are not the result of an unknown influence that is the true cause of the differences found between the experimental group and the control group". In other words, experiments are carried out for the purpose of determining the causal relationships between variables as well as control the threats to internal (interpretability) and external (generalizability) validity. The purpose(s) of experimental research include the following:

- It is used to test existing theories or new hypotheses for the purpose of approving, disproving or building on them.
- It is used to establish possible cause and effects relationships between independent and dependent variables.
- It provides a form of control for threats to both internal (the ability to interpret results) and external (the ability to generalize results) validity.

### 3.3 Experimental Research Designs

Experimental research designs as used in mass media research has two different meanings; on the one hand, it refers to the statistical process that is used in analyzing data and on the other hand, it refers to the entire plan of the experimental research. Wimmer and Dominick (2011:247) further reiterate the fact that there are certain questions that need to be asked before an experimental research design is constructed and used. These questions include:

- What is the purpose of the study?
- What is to be measured?
- How many independent variables are involved?
- How many degrees of the independent variables are involved?
- What type of data is needed and what is the easiest and most efficient way to gather that data?
- What type of statistical analysis is appropriate for the data and the study in general?

- What is the cost for conducting the study and how can it be reduced?
- What are the facilities and structures available for conducting the study?
- What types of studies have been conducted in the area before?
- What are the benefits that will be received from the results of the study?

The types of experimental designs available to a social scientist or researcher conducting an experiment include the following:

- ***Group Experimental Design***: This refers to an experiment that is conducted on a group and it can take two different forms: *single variable designs* and *factorial design*.
    a) *Single Variable Designs*: This design is used when there is only one independent variable that can be manipulated or controlled by the researcher. This design can further be divided into three main headings depending on the level of control the researcher has on other variables.
        **i.** Pre-experimental designs (low degree of control): Under this kind of experimental design, we have *one-shot case studies, one-group pretest-posttest design,* and *static group comparison design*.
        **ii.** True Experimental designs (high degree of control): It has the highest level of control out of all the single variable designs and this is due to the fact that the subjects within the groups are randomly assigned for each group. This design can further be classified into the *posttest-only control group design, the pretest-posttest control group design* and *Solomon four-group design.*
        **iii.** Quasi-experimental design (medium degree of control): This design takes three forms and they are *non-equivalent control groups design, time-series design,* and *counterbalanced design*.
    b) *Factorial Design*: This kind of experimental design is conducted for the purpose of finding out if the independent variable can be generalized. In other words, its aim is to point out the relationships between variables.
- **Single Subject Experimental Design**: This kind of experimental design is used when there is only one subject involved in the study. There are three types of single subject experimental design and they are:
    a) *A-B-A Withdrawal Design*: This design is further divided into three types and they are *the A-B design, the A-B-A design* and *the A-B-A-B design.*
    b) *Multiple-baseline design*: This design is put to use when the conditions cannot be reversed; the treatment can be withdrawn, but the effects of the treatment continue.
    c) *Alternating treatments design*: This design is used to determine the effects of two or more treatments within a single-subject and in when using this design, no form of withdrawal is necessary.

### 3.4 Structure of an Experiment

The structure of an experiment refers to the stages that are involved in conducting an experiment. According to Wimmer and Dominick (2011:241), there are eight steps to be followed when conducting an experiment. These eight steps are:

- The researcher should select the setting in which the study will be conducted. The setting could be in a laboratory (where the researcher has a direct control) or in a natural environment (where the researcher has little or no control).
- Select the experimental design that is the most appropriate for the kind of research that wants to be conducted.
- Operationalize all the variables both independent and dependent variables. Independent variables are operationalized on the basis of the manipulation done to create them while dependent variables are operationalized on the basis of constructing the rules that are used for categorizing observations of behavior.
- Decide how to manipulate the independent variable either by using the straightforward manipulation or the staged manipulation.
- Select and assign subjects to experimental conditions.
- Conduct a pilot study.
- Administer the experiment.
- Analyze and interpret the results.

### 3.5 Two basic types of experimental research

For the purpose of this unit, we will be discussing two basic types of experimental research and they are laboratory and field experimentation.

#### 3.5.1 Laboratory Experimentation

Laboratory experiment is one of the oldest approaches in mass media research and it provides a wealth of information for researchers (Wimmer and Dominick, 2011:239). They refer to experiments that are conducted under controlled situations in a special place (such as a building or laboratory) for scientific purposes or research. The laboratory experiment is subject to the jurisdiction of the researcher because he/she controls to a very large extent the rules and procedures that control the conditions in the laboratory. By controlling the conditions in the laboratory, the researcher is able to establish, calculate and measure the causal relationship amongst variables. The uses of laboratory experiment in mass media research include testing existing theories or new hypotheses, establishing possible cause and effects relationships between independent and dependent variables and providing a form of control for threats to both internal (the ability to interpret results) and external (the ability to generalize results) validity (Wimmer and Dominick, 2011).

### 3.5.2 Advantages and Disadvantages of Laboratory Research

Wimmer and Dominick suggests some of the advantages and disadvantages of laboratory research; the advantages on the one hand include the following:

- They help to establish cause and effects relationship between variables.
- Researchers to a very large extent have control over the environment, the variables and the subjects.
- Laboratory experiments are inexpensive when compared to other research methods.
- It allows for replication i.e. the study can be repeated again by other researchers.

The disadvantages on the other hand include:

- The artificial nature of the laboratory makes it difficult to apply the results gotten from laboratory experiments to real life settings or situations.
- Laboratory experiments can be affected by the researcher's bias due to the amount of control the researcher has on the environment, subjects and variables.
- Some research questions and many interesting research topic in the mass media that deals with the collective behavior of a large number of people cannot be answered or researched using the laboratory experiment, hence making the method very limited in scope.

### 3.5.3 Communication Issues Investigated through Laboratory Research

Laboratory experimentation has been used widely in the field of mass media research especially in the area of media effects research in the 1940s and 1950s. It has been used to study and investigate the pro-social or positive effects of educational and children programming on children's behavior as well as the antisocial or negative effects of both the traditional and new media especially the possible effect of TV violence on human behavior.

### 3.5.4 Field Experimentation

Unlike the laboratory experiment where the subjects come to the laboratory to meet the researcher, the field experiment is the opposite because the researcher goes to the subject's natural environment to conduct his/her research. Here, the subjects function and carry on with their normal daily activities with little or no interference from the researcher or a change in the structure of the environment. Unlike in the laboratory where the researcher has control over the experiment, here, the researcher has little or no control over the experiment and the study at large. There are two categories of field experiments: there is one in which the researcher manipulates the independent variable(s) and the other is one in which the manipulation of the independent variable occurs naturally as a result of other circumstances.

### 3.5.5 Advantages and Disadvantages of Field Experimentation

Wimmer and Dominick (2011:254) posits some of the advantages and disadvantages of field experiments. The advantages include:

- The major advantage of field experiment is its external validity i.e. the ability to generalize and apply its results to real life situations since the experiment was conducted in the natural environment of the subjects.
- They are non-reactive in the sense that they do not lead to a change in the subject's behavior that comes from the awareness of being measured or observed.
- They are very useful for studying complex social processes and situations.
- They are very inexpensive to conduct because it requires no special equipment or facilities.

The disadvantages include the following:

- Sometimes, ethical considerations such as airing violent programmes to children makes it difficult to conduct filed experiments.
- They often encounter external hindrances that are not anticipated by the researcher.
- Researcher cannot control all the intervening variables in a field experiment.

### 3.5.6 Communication Issues Investigated through Field Experimentation

According to Wimmer and Dominick (2011:256), some of the communication issues studied using field experimentation includes the following:

- The positive and negative effects of television on people or a community.
- The impact of the media on politics.
- The negative effects of pornographic content on people.
- What people would do without television
- The impact of a PR campaign

## 3.6 A Classic Example of Experiment in Communication Research

A classic example of experiment conducted in communication research that will be given in this unit as cited by Wimmer and Dominick (2011:257) is the one conducted by Smith and Hand (1987) on the effects of viewing pornography. An XXX rated film was shown yearly at the small college that was selected as the site for the research. About one-third of the male students on campus attended the annual showing of the film. One week before the film was shown, the researchers did a survey of 230 female students to find out about their contact with aggression and the same survey was conducted the Monday after the film has been aired and the week after. The researchers then analyzed the amount of violence that females whose partners watched the

film had contact with as compared to females whose partners had not seen the film. The study recorded no differences in the amount of violence experienced by the two groups of females.

## 4.0 Conclusion

Unlike the general opinion or assumption that the experimentation research method has to do with the natural sciences, this research method is also used in the social sciences by social scientists, researchers and critics to understand the cause and effect relationship between variables. For an undergraduate student like yourself, this method may seem difficult and very cumbersome for you to use in conducting a study, hence the need to understand and comprehend the limitations and strengths of the method in order to know how to effectively and efficiently use it in a study.

## 5.0 Summary

In this unit, we have learnt the following:

- Experimentation method is an old research method that was used in the earlier stages of mass media research and it is used to establish causal relationships between variables.
- There are two major experimental designs and they are group experimental design and single-subject experimental design.
- The two major types of experiments are field and laboratory experiments.
- Experiments are not conducted anyhow but they are subjected to certain procedures and rules.

## 6.0 Tutor-Marked Assignment

- What are the advantages and disadvantages of field and laboratory experiments?
- List and discuss the experimental designs that are available to a researcher when conducting an experiment.

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## UNIT 2 THE SURVEY RESEARCH METHOD

## CONTENTS

### 1.0 Introduction

The survey research method is one of the most frequently used research methods in the social sciences and in the field of mass media research. In fact, most undergraduate and postgraduate students in Nigerian universities make use of the survey method when carrying out their undergraduate project; decision makers in all spheres including in the media make use of the survey research method in their daily routines. It is one of the most important areas of measurement and a frequently used mode of observation in the social sciences. Hence, the need to have an in-depth understanding of what it is all about.

### 2.0 Objectives

Reading this unit will afford you the opportunity to:

- Define and know the survey research method;
- Get an understanding of descriptive and analytical surveys;
- Identify the advantages and disadvantages of surveys;
- Have a knowledge of the methods of gathering survey data;
- Know how to construct a survey questionnaire as well as the types of survey questions to be included therein; and
- Achieve a high response rate when using a survey method as well as know the general problems that are associated with survey research.

### 3.0 Main Content

#### 3.1 Definitions of the Survey Research Method

Survey research is a non-experimental, descriptive research method that has to do with asking people questions and finding out what people think and do. It can be referred to as one of the best methods that are available to researchers who want to collect original data that describes a population that is too large to be observed directly, hence the need to get a smaller population (i.e. sample) that is representative of the larger population. Surveys may be used for descriptive, explanatory and exploratory purposes and they are most importantly used in studies where individual people are the units of analysis.

According to Simon (1969) as cited in Onabajo (2010:50), a survey research method is used to gather data on what people say and about variables as they are found in the world. It may also be defined as a method of primarily collecting data based on a form of communication or rapport with a representative sample of individuals (called

respondents). It can take the form of a short paper-and-pencil feedback or an intensive one-on-one in-depth interview depending on the nature and scope of the research study.

### 3.2 Purpose of Survey Research

Surveys are mostly used for descriptive, explanatory and exploratory purposes. One of the major purposes of the survey research is to describe the attitudes, opinions, behaviors or characteristics of the sample population based on the data gathered from that population. Most times, surveys draw a sample that is representative of the large population from which it is drawn. Surveys are used to provide as well as produce reliable and useful information especially on audiences and readership (Wimmer and Dominick, 2011:185).

As stated by Babbie (2010:254), survey is probably the most widely used method available to every social researcher who is interested in collecting original data for describing a population that is too large to be observed directly.

### 3.3 Descriptive and Analytical Surveys

There are two major types of surveys and they are descriptive and analytical surveys. A **descriptive survey** as the name implies makes an attempt to describe or explain what exists at the moment. This kind of survey entails discovering the current situation of things in the area that is being studied. For example, undergraduate students of a University can carry out descriptive survey to find out the opinion of Lagos residents on Governor Fashola's second term in office. On the other hand, an **analytical survey** deals with the 'why' i.e. it seeks to describe or explain why situations exist. It has to do with examining two or more variables to investigate research questions or test research hypothesis (Wimmer and Dominick, 2011:185). The results gotten from analytical surveys are used to examine and determine the relationships between variables as well as to make explanatory inferences. For example, NTA could decide to carry out an analytical that seeks to investigate the relationship between the lifestyle of their audience and their viewing patterns or habits.

### 3.4 Advantages and Disadvantages of Surveys

As cited by Onabajo (2011:52) and Wimmer and Dominick (2011:185), the **advantages** of survey research include the following:

- It is relatively inexpensive when considered in terms of the amount of information it generates.
- Using this research method, a large amount of information is gathered from different people with ease as compared with other research methods.

- They are not limited by geographic constraints or boundaries and can be conducted anywhere.
- Survey research methods are reasonably accurate especially when the sampling is correct.
- Results gotten from surveys can be generalized because the sample population is large ad very representative of the entire research population.
- Surveys can be used to investigate problems in a realistic setting i.e. the problems can be examined where they exist or happen rather than in a laboratory or under an artificial condition.

The **disadvantages** on the other hand include (Wimmer and Dominick, 2011:186) and Onabajo (2011:53):

- Getting a representative sample can be very difficult and expensive.
- Respondents may not give honest answers hence distorting the validity and accuracy of the results.
- Inappropriate wording or placement of questions within a questionnaire can bias the results.
- Some survey research is becoming difficult to conduct because response rates continue to decline.

## 3.5 Methods of Gathering Survey Data

According to Wimmer and Dominick (2011:201), there are five basic methods for gathering survey data and they are mail survey, telephone survey, personal interview, group administration, and internet survey. Other methods include mall interviews and computer-assisted personal interviewing (CAPI). A researcher can use any of these methods in isolation or can combine two or more together to achieve a desired result. However, it is important that you are acquainted with the advantages and disadvantages of each method so as to know how to appropriately use the method(s).

### Mail Surveys

This has to do with sending out self-administered questionnaires accompanied by a letter of explanation and a self-addressed stamped reply envelope for returning the questionnaire. The stamped reply envelopes are usually included in the mail so as to encourage respondents to return their completed questionnaires to the researcher. Once the researcher has done his or her own part by sending the mail, it is the duty of the respondent(s) to complete the questionnaire, put in the stamped envelope and return it to the researcher. Mail surveys are used by certain businesses like consumer panels to secure a substantial amount of information about the purchasing behaviors of consumers. However, this method can be very difficult and tedious for undergraduates who don't

have the ability to efficiently and effectively handle the low response rate that characterizes mail surveys (Wimmer and Dominick, 2011: 201 and Babbie, 2010:270).

**Telephone Surveys**

This method of gathering data has to do with making use of trained interviewers who ask questions as well as record the answers or responses gotten on a computer. This kind of survey is only limited to those who have telephones, hence, a decline in the way it is often used in the field of mass communication. This method of gathering survey data creates a form of balance between mail surveys and personal interviews; this is because it gives the researcher a form of higher control and a higher response rate. Interviewers are very important to the success of telephone surveys, they are the neutral link between the respondents and the researchers; they are the ones that communicate the respondents' answers back to the researcher for further analysis.

**Personal Interviews**

They are also referred to as one-on-one or face-to-face interviews and unlike the normal method of asking respondents to read the questionnaires and enter in their own answers, this method of survey data collection involves sending interviewers to orally ask the questions and record the responses. There are two basic types of interviews: **structured** and **unstructured interview**. In a **structured interview**, the questions are formed before the interview and arranged in the order in which they will be asked i.e. the questions are standardized and asked in a predetermined order. An **unstructured interview** however has to do with asking broad questions that allows as well as gives the researcher control over determining further questions tobe asked that will generate the needed information. Structured interviews are very easy to analyze and tabulate but there is a limit to the amount of information it generates, however, unstructured interviews can generate a large amount of information which becomes very difficult and cumbersome for the researcher to analyze and tabulate.

**Group Administration**

Group administered surveys involve gathering a group of respondents together to fill individual copies of a questionnaire or asked to participate in a group interview. This method combines features of both mail surveys and personal interviews. It requires the presence of more than one interviewer so that problems can be resolved individually without having to disturb the entire group. Group administered surveys are not only about filling questionnaires, it could also take the form of gathering respondents together to analyze video and audio materials. For instance, a group administered survey can be carried out in this form by gathering together married women who will analyze advertising videos of how women are portrayed in adverts.

### Internet Survey

With the advent of the new media, and the internet generally, virtually any form of research can be done on the internet. Internet survey has to do with asking respondent(s) through email, letters or telephone to participate in a survey or research project online by either sending the questionnaires to their emails or giving them a link to access the questionnaire online. When the respondents are done with the questionnaires, they click on submit or send the questionnaire back to the researcher. One of the online tools used in internet survey is 'Survey Monkey', an online tool that allows researchers to create questionnaires online and send them to the respondents.

### Mall Interviews

Mall interviews is a form of personal interview, it has to do with interviewing respondents on a face-to-face level in an already pre-determined mall. For instance, a student-researcher that wants to research into the buying habits of Lagosians can decide to go to Shoprite (a mall in Lagos) and conduct a mall interview. This method makes use of convenience sampling, is gaining popularity and has become the standard for many researchers.

### Computer-Assisted Personal Interviewing (CAPI)

This is a survey method that involves an interviewer conducting a one-on-one interview and entering the data obtained directly into a computer and the results are later uploaded into a master computer for further analysis (Wimmer & Dominick, 2011:208).

## 3.6 Constructing Survey Questionnaires

The data collection instrument for the survey research method is a questionnaire. The questionnaire according to Babbie (2010:255) is an instrument that is designed to gather or elicit information that will be subjected to further analysis. Survey questionnaires have to be constructed in the right format, if not; the essence of the entire research might be distorted. Good questionnaires should have the following characteristics:

- It should be spread out and uncluttered.
- It should be short and concise.
- They are clear and not ambiguous.
- They avoid double-barreled questions.
- They ask questions that are relevant and that the respondents can answer.
- They ask questions that are easy and simple to answer.
- The questions in it are usually arranged in a logical order.
- All instructions necessary to complete the questionnaire should be clearly stated in it.

## 3.7 Types of Survey Questions

In the process of asking survey questions, researchers have two options and these options make up the two basic types of questions in the survey research method. They are: **open-ended** and **close-ended** questions.

When asking open-ended questions, the respondent is asked to provide his or her own answers to the questions asked. For example:

- Why do you read newspapers?..……
……...
- What radio station do you listen to the most?.....

### Advantages of Open-ended Questions

According to Wimmer and Dominick (2011:187), the advantages of open-ended questions are:

- It gives the respondents freedom in answering their questions and it allows them to provide in-depth responses.
- It gives the researcher much room to follow up on questions that will give information about the respondents' feelings and motives.
- It allows for answers that the researcher did not foresee when designing the questionnaire.
- They are useful in a pilot test of a study.

### Disadvantages of Open-ended Questions

Its disadvantages include:

- The process of analyzing the data gotten from open-ended questions is rigorous and difficult.
- A large amount of time is required to gather and analyze the data.
- Ambiguous answers given by respondents could lead to misinterpretation of data on the part of the researcher.

**Close-ended questions** on the other hand refer to survey questions that the researcher provides a list of possible answers to from which the respondent is supposed to choose from. According to Babbie (2010:256), "close-ended questions are survey questions in which the respondent is asked to select an answer from among a list provided by the researcher". For example:

- What is your educational qualification? a) SSCE b) HND or OND c) B.Sc d) M.Sc e) Ph.D

**Strengths of Close-ended Questions**

- They provide a greater uniformity of responses.
- The answers are easier to code and analyze statistically.
- They minimize the risk of misinterpretation on the part of the respondents.
- They keep the questionnaire to a reasonable length that will encourage the respondents to fill and return the questionnaires, hence increasing validity.
- Replication is easier.

**Weaknesses of Close-ended Questions**

- They force respondents to give simplistic responses to complex issues.
- It can lead to misleading conclusions because of the limited range of options.
- It doesn't give in-depth information as compared to open-ended questions.
- Sometimes, researchers fail to include important responses in the provided list of responses.

## 3.8 Training of Interviewers

Training interviewers is a very important aspect of the survey research process especially for surveys that use a large sample such that the researcher cannot administer the questionnaires by himself/herself. There is a need for the researcher to either hire experienced interviewers or research assistants or train inexperienced interviewers in order to make them familiar with the items, response options and instructions on the questionnaire.The interviewer's training session should begin with a detailed description of what the study is about, followed by a discussion of the general guidelines and procedures involved in conducting a survey, going through the questionnaire together, conducting one or two demonstration interviews, and then finally conducting a real interview under the actual condition that will pertain to the final survey. According to Babbie (2010:276), interviewers should be trained to do the following:

- To dress and appear in a manner similar to that of the people they will be interviewing.
- To get familiar with the questionnaire by studying it carefully.
- To follow the wording of the questions exactly as it is in the questionnaire.
- In the case of an open-ended question, the interviewer must be trained to record the answers to such questions exactly as given by the respondent.

### 3.9 Questionnaire design

The questionnaire design or format is a very important aspect to consider when constructing the questionnaire. The questionnaire design has to do with the physical appearance of the questionnaire, the wordings of the questions as well as other items in the questionnaire. The questionnaire design is very important because to a very large extent, it determines and can affect the response rate. To create a very good questionnaire design, Wimmer and Dominick (2011:195) give the following suggestions for the requirements of a good questionnaire:

- ***Introduction***: A good and persuasive introduction is one way to increase the response rate in surveys. The characteristics of a good introduction according to Backstrom and Hursh-Cesar (1986) as cited by Wimmer and Dominick (2011:195) include the following: the introduction should be short; it should be realistically worded, nonthreatening, serious, neutral, and pleasant but firm. Most times the introduction gives a brief summary of what the research is all about; it introduces the organization or individual carrying out the research, states the purpose for the research and gives a statement assuring the respondents of confidentiality.
- ***Instructions***: A good questionnaire design should include clearly stated instructions that will guide the would-be respondents in filling the questionnaire.
- ***Question Order***: The questions used in a survey should be arranged in such a manner that encourages the respondents to fill the questionnaire. The researcher could start with warm-up or preliminary questions and end with the more serious and sensitive ones. Whatever the case may be, the questionnaire should be arranged in a logical order proceeding from the general to the more specific.
- ***Layout***:The layout and physical appearance of the questionnaire also matters. The questionnaire should not be badly typed or reproduced; the responses should be stated clearly and spaced adequately so as to avoid confusing the respondents.
- ***Questionnaire Length***: The questionnaire should not be too long; the researcher should try and make it as short as possible.

Once the questionnaire is completed, the researcher subjects it to a process of **validation** that seeks to find out whether or not it has been adequately designed. The researcher does this by pre-testing the instrument i.e. sampling it amongst the type of respondents that will actually be studied, taking down their comments and using it to create the final draft of the questionnaire.

### 3.10 Achieving High Response Rate in Survey Research

**Response rate** which is also known as *completion rate* or *return rate* refers to the "number of people participating in a survey divided by the number selected in the

sample, in the form of a percentage". It could also be referred to as the numbers of questionnaires sent out that are returned. (Babbie, 2010:272). For instance, let's assume you sampled 500 respondents in a survey and 400 questionnaires were returned, the response rate is calculated as follows:

$(400 \div 500) \times (100 \div 1) = 80\%$

For a survey to be valid, a very high response rate is needed. This signifies the representativeness of the results as well as its ability to be generalized. To achieve a high response rate in surveys, researchers do any of the following:

- Give incentives and gifts to respondents e.g. pens to fill the questionnaire or gift cards.
- Make the questionnaire as short and brief as possible.
- Make the questionnaire attractive and easy to fill out.
- Clarify the question format and make it as simple as can be.

## 3.11 General Problems in Survey Research

Despite the fact that the survey research is a very important research method in the field of mass communication, there are some general problems encountered when using this method. These problems or difficulties according to Wimmer & Dominick (2011:214) include:

- The ability of respondents to deceive researchers on purpose by giving an incorrect answer.
- Due to feelings of inadequacy or lack of knowledge, some respondents can tend towards giving prestigious answers on topics they know nothing about instead of just admitting that they do not know it.
- Respondents sometimes give elaborate answers to simple questions especially when trying to voice out all their opinions.
- Surveys are complicated due to the fact that sometimes, it could be difficult for respondents to explain their true feelings, perceptions and beliefs in their own words.
- Sometimes, respondents may be unable to recall certain information about themselves or their activities due to certain factors ranging from memory failure to nervousness that comes with filling questionnaires.

## 4 Conclusion

Survey research is a very important method of data collection that is useful in the social sciences and also one of the most widely used methods of media research due to its flexible nature. However, when using the survey research method, researcher should take into cognizance the sample selection, questionnaire design as well as the error rates.

## 5 Summary

In this unit so far, we have learnt the following:

- The survey research method is an invaluable too and an important method in the field of media research.
- Survey research could be either descriptive or analytical in nature depending on the form that suits the study being undertaken.
- There are different methods of gathering survey data that are available to a researcher and they include mail survey, telephone survey, mall interview, group administration, personal interview amongst others.
- The questionnaire design is a major step in any survey research ad must be done properly to avoid any form of bias or errors.
- To increase the response rates in surveys, researchers should include incentives that would encourage the respondents to fill and return the questionnaires.

## 6 Tutor-Marked Assignment

- Look for a questionnaire that has been used for a survey, consider at least five of the questions in it and critique each one.
- Identify the methods that are used in gathering data in survey research.

**7**

## 7. 0 References/Further Readings

Babbie, E. (2010*). The practice of social research* (12th Edition). Wadsworth: Cengage Learning.

Wimmer, R.D. & Dominick, J.R. (2011). *Mass media research: An introduction* (9th Edition). Wadsworth: Cengage Learning.

**UNIT 3 CONTENT ANALYSIS**

**CONTENTS**



## 1.0 Introduction

This unit will be considering the content analysis research method which is one research approach that is frequently used in all areas of the media.

## 2.0 Objectives

This unit will expose the students to the following:

- The definition and origin of content analysis;
- The process or steps involved in conducting content analysis;
- The advantages/strengths and disadvantages/weaknesses of content analysis; and

- The key procedural concepts that are used in content analysis.

## 3.0 MAIN CONTENT

### 3.1 Definition of Content Analysis

Content analysis has to do with the study of recorded human communication that exist in different forms such as books, magazines, web pages, newspapers, speeches, films etc. It is a research method that is very popular with mass media researchers because it has an efficient way of investigating as well as measuring the content of the media .According to Kerlinger (2000) as cited in Wimmer and Dominick (2011:156), "content analysis is a method of studying and analyzing communication in a systematic, objective and quantitative manner for the purpose of measuring variables". From this definition, we see that there are three very important concepts that need to be discussed in details. The first is the fact that content analysis is *systematic*; this implies that it is a scientific process that is subjected to certain explicit and consistently applied rules and procedures. Secondly, content analysis is*objective*; in other words, this means that it is free of any bias or input on the part of the researcher. The research should be void of the researcher's personal biases and should yield the same result if replicated by another researcher. Finally, the third concept is the fact that content analysis is *quantitative*; this implies that it has to do with quantification i.e. "the goal of content analysis is an accurate representation of a body of messages" (Wimmer and Dominick, 2011:157).

According to Zito (1975) as cited in Onabajo (2011:79), "*content analysis may be defined as a methodology by which the researcher seeks to determine the manifest content of written, spoken, or published communications by systematic, objective, and quantitative analysis*". From this definition, content analysis has to do with interpreting and seeking out the hidden meanings in written, spoken or published communications.

### 3.2 Origin of Content Analysis

The first kind of content analysis carried out probably dates back to 1743 when 90 hymns published in Sweden were examined to determine whether dangerous ideas were being disseminated through the hymns. However, modern content analysis dates back to World War II when Allied Intelligence units the number and types of popular songs that were played on European radio stations and compared them with the kind of music played on German stations with the aim of measuring the degree of changes in troop concentration on the continent.

Over the years content analysis has been used to conduct studies that verify the authorship of both historical and current documents. These studies were carried out by counting words in questionable authenticity and comparing their frequencies with words in documents whose authors are known (Wimmer & Dominick, 2011:156). Since after the war, researchers have used

content analysis to study propaganda in newspapers and radio and with the advent of the new media, it is now being used to study new media content also. Content analysis is widely used in mass media research and remains a useful tool for social scientists and communication researchers.

### 3.3 Procedure of Content Analysis

As earlier stated, the content analysis research method is one that is systematic in nature i.e. it involves following rules that are consistently applied. This shows that the process of conducting a content analysis is in several discrete stages and steps. A summary of the steps taken in a content analysis according to Wimmer and Dominick (2011:160) include the following:

- Identification and definition of problem.
- Formulate the research question or hypotheses.
- Define the universe in question.
- Selecting an appropriate sample from the population.
- Construct the categories of content to be analyzed.
- Establish a quantification system.
- Train coders and conduct a pilot study.
- Code the content according to established and predetermined definitions.
- Analyze the collected data.
- Draw conclusions and search for indications.

### 3.4 Key Procedural Concepts of Content Analysis

There are certain procedural concepts that are very important and must be understood by every researcher when conducting a content analysis. These are:*units of analysis, content categories, sampling* and *coding.*

- ***Units of Analysis***: It is the most basic and smallest element of a content analysis; it refers to the 'who' or 'what' (subject of the study) that is being studied or analyzed in a content analysis from which the researcher wants to generalize from. In a written content, the unit of analysis might be a single word or symbol, a theme or an entire article or story. For TV and films, it could be the characters, acts or entire programs. For example, when studying a newspaper, you can decide that your unit of analysis is the headlines, the editorials, all the crime stories featured in it, the adverts or the pictures in the newspaper.
- ***Content Categories***: Content categories refer to words that have the same meanings and are used to classify media content into categories that are mutually exhaustive and exclusive. Content categories differ based on the study that is being carried out. For instance, in a study conducted by Okoro&Nnaji (2012:42) on the press coverage of

environmental pollution in the Niger-Delta in Nigerian newspapers, the content categories used were:

i. *The nature of the story* i.e. checking if the story on environmental pollution is categorized as news, features, editorials, pictures or cartoons.
ii. *Frequency of coverage*: This has to do with the number of times that the stories on environmental pollution are covered by the selected newspapers.
iii. *Placement of stories:* This has to do whether the story is on the front page, inside page or on the back page.

On a general note, the following are major requirements of content categories:

- They must be mutually exhaustive such that all the relevant contents are categorized.
- They must be mutually exclusive such that data/content can only be placed in one category alone.
- They must be independent such that the assignment of one content/data to a category will not affect the placement of another.

- **Sampling:** Sampling is the process of taking a subset that is representative of the entire population. Sampling occurs throughout all the levels of content analysis and any of the sampling techniques could be used such as stratified sampling, systematic sampling, cluster sampling amongst others. Most of the content analysis in mass media research makes use of multistage sampling which is in two or more stages. The first stage has to do with selecting/sampling from the content sources and the second step has to do with selecting dates. Using the example stated earlier, Okoro and Nnaji (2012) made use of the multistage sampling method. They made use of the purposive sampling method in selecting the four newspapers used based on their high circulation, widely diffused market and the coverage of major interest groups in the country. After using purposive sampling to select the newspapers, systematic sampling was used to select the editions and issues of each newspaper.
- **Coding:** This is the process of placing a unit of analysis into a content category and reducing the data gathered into a manageable form. It also has to do with assigning numbers and codes to content categories. This is the aspect of content analysis that makes it very time-consuming. According to Babbie (2010:338), "coding is the process of transforming raw data into a standardized form". The coding process has to do with recording the observations made during the course of the study in a form that can be analyzed and understood. The instrument used for this is called the 'coding sheet' and it should be very standardized to make the researcher/coder's work easier. For the purpose of this unit, we shall consider an example cited by Sobowale (2008:21), using crime rate as an example; he constructed content categories and designed a coding sheet.

  The content categories were constructed using police records and they include: date, types of crime, place of occurrence, sex of suspects, sex of victims, nature of crime, cost

arrests, prosecution and convictions. Using the aforementioned content categories, a coding sheet was created as illustrated below:

| Date | Types of Crime | Place of Occurrence | Sex of Suspects | Sex of Victims | Nature of Crime | Cost | Arrests | Prosecution | Convictions |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

The above is an example of a coding sheet that is done manually. Along with a coding sheet comes a coding guide which gives a set of instructions as to how the coding sheet is to be used. With the advent of digitalization, coding can also be done through the use of computers and software that help to analyze data especially when performing a content analysis of the new media such as twitter, Facebook etc.

### 3.5 Analyzing Content Analysis Data

Descriptive statistics such as percentages, means, modes, medians, interquartile range and standard deviation are appropriate for analyzing content analysis data. Inferential statistics could also be used when testing hypothesis. You will learn more about the analysis of data in Module five. The same statistical rules and principles that apply to other areas of mass media research and other research methods also apply to content analysis.

### 3.6 Strengths and Weaknesses of Content Analysis

The following are the **strengths/advantages** of content analysis:

- It is inexpensive and requires a little amount of time as compared to other research methods.
- It is flexible and allows for the correction of errors.
- The researcher has little or no effect on the subject being studied i.e. it is unobtrusive in nature.
- It allows the researcher to study processes or phenomenon occurring over a long period of time.
- It can provide valuable historical/cultural insights over time through analysis of text.
- It can quantify large data.

On the other hand, its **weaknesses/disadvantages** are:

- It is limited and restricted to only recorded forms of communication that may be oral, written or graphic and must be recorded in a manner that permits analysis.

- The problem of representativeness is a major disadvantage in content analysis
- It can be very time-consuming.
- It can pose reliability and validity problems.

**4.0 Conclusion**

Content analysis is a major research method in mass media research that is used for studying human communications and other aspects of social behavior. It has the same basic features with other research methods; it is only the way it is carried out that is different.

**5.0 Summary**

At the end of this unit, we have learnt and understood the following:

- Content analysis is a popular technique in mass media research and it systematic in nature.
- The key procedural concepts in content analysis include the content categories, sampling, coding and units of analysis.
- In constructing the content categories, the researcher must take note of the fact that they must be mutually exhaustive, mutually exclusive and independent in nature.
- The strengths and weaknesses of content analysis.

**6.0 Tutor-Marked Assignment**

Briefly discuss the process of conducting a content analysis.

## 7.0 References/Further Readings

Babbie, E. (2010). *The practice of social research* (12th Edition). Wadsworth: Cengage Learning.

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## UNIT 4: OTHER METHODS

**CONTENTS**



### 1.0 Introduction

Apart from the aforementioned research methods, there are other forms of research methods that are used in communication research. These methods include Case Studies, Observational Research, Ethnographic Research, Longitudinal Research and Focus Group Research. These research methods refer to the techniques used by communication researchers to obtain data about the research they are carrying out. It is important to note that the methods discussed in this unit are as important as the ones already discussed in units 1-3.

### 2.0 Objectives

At the end of this unit, students will be able to adequately explain the following:

- The case study method, its advantages and disadvantages as well as the process involved in conducting a case study;
- Observational research and all that it entails;
- Longitudinal research, its advantages and disadvantages;
- Focus group research and the process involved in conducting one; and
- In-depth interview, its characteristics, weaknesses and strengths.

## 3.0 Main Content

### 3.1 Case Studies

Case study is a research method that is qualitative in nature. According to Wimmer and Dominick (2011:141), case study is a method that "uses as many data sources as possible to systematically investigate individuals, groups, organizations or events". Case studies are very useful to a researcher when he/she wants to explain a phenomenon. The use of many sources of data or multiple sources of evidence is what differentiates case studies from other research methods. There are five stages that are involved in the process of conducting a case study and they are: *design, pilot study, data collection, data analysis* and *report writing*.

Merriam (1988) as cited in Wimmer and Dominick (2011: 141) lists four essential characteristics of case study research and they are:

- Case studies are particularistic in nature i.e. they focus on a particular event, situation or phenomenon. This makes it a very good and efficient method for studying real life and practical situations or problems.
- Case studies are descriptive because the final product of the research is usually a detailed description of the topic or phenomenon being studied.
- Case studies are also heuristic in nature i.e. it helps people to understand what is being studied by giving new interpretations, perspectives, meaning and fresh insights to the topic being studied.
- Finally, case studies are inductive in nature because they have to do with inductive reasoning; a situation whereby the researcher seeks to discover new relationships rather than verify existing hypotheses.

***The Advantages of Case Studies***

These advantages include:

- It is very useful when a researcher wants to obtain a lot of information and detail(s) about a research topic.
- It is very helpful for a researcher to wants ideas for further research.
- This research technique has the ability to give possible suggestions as to why something has occurred.

- Case studies give researchers the ability to deal with a large spectrum of evidence.

***The Disadvantages of Case Studies***

- It lacks scientific rigor.
- The results gotten from case study research cannot be generalized.
- Case studies are time consuming and the large quantity of data might become too cumbersome for the researcher to summarize.

**3.2 Observational Research**

This research method has to do with studying people, things or situations around us by means of observation. The observation research method is used to seek answers to questions that questionnaires and direct reports couldn't provide answers to. It is more concerned with description and explanation than with measurement and quantification. It is the basic method for getting information on anything.There are **six stages** involved in the process of conducting an observational research and they are *choosing the research site, gaining access, sampling, collecting data, analyzing data* and *exiting*.

The **advantages of observational research method** include:

- It is a very direct method used for collecting data.
- It is less demanding and less cumbersome in nature.
- It enhances and improves the precision of the research results.
- It helps the researcher to build up the basic background that will be used to frame the hypothesis as well as identify dependent and independent variables.
- Sometimes, it can be the only appropriate research method to use especially when quantification and measurement becomes difficult.
- It provides access to groups that would ordinarily be difficult to observe.
- It requires less cost and expenses.

The **disadvantages** of this research method are:

- It does not allow for external validity due to the fact that the representativeness of the observations made could be potentially questionable.
- It might involve bias on the part of the researcher.
- It leads to reactivity which is a process whereby the subjects being observed alter their behavior because they are aware of the fact that they are being observed, hence distorting the validity of the results.

**3.3 Ethnographic Research**

This research method is a form of qualitative research and it entails 'spending long periods of time living with and observing other cultures in a natural setting' (Wimmer & Dominick, 2011:145). It was first practiced by anthropologists and sociologists and now with the advent of the new media, it is becoming a popular method used for studying online or web-based communities. The ultimate goal of this research method is to examine how a particular group perceives a phenomenon. This research method has the following characteristics (Wimmer & Dominick, 2011:145):

- It uses different research techniques such as observation, interviews, diary keeping, analysis of existing documents (content analysis), photography, videotaping amongst others.
- It is time consuming as a considerable amount of time has to be spent doing fieldwork.
- It is a participatory form of research as the researcher needs to go to the data to obtain it instead of the other way round.
- It emphasizes studying the research topic from the participants' frame of reference.

What distinguishes this research method from others is the fact that it can use several research techniques such as focus groups, case studies, in-depth interview, and field observations.

### 3.4 Longitudinal Research

This kind of research has to do with collecting and gathering data at different points in time. There are three main forms of longitudinal research and they are trend study, cohort analysis and panel study:

- *Trend Studies:* Here, different groups of people from the same population are sampled at different times. Its advantages include the fact they are very useful in describing long-term changes in a population, it is less expensive and saves time, and it allows researchers to understand long-term change. Its major disadvantage on the other hand is the fact that if data gathered are unreliable, false trends will show up in the results, hence, jeopardizing the validity of the research.
- *Cohort Analysis:*It is a form of longitudinal research that is focused on studying the activities of a particular cohort group (i.e. a group of people who share a common characteristic at a point in time or over a period of time). This analysis enables the researcher to identify the relationship between the characteristics and behavior of a population. One of its many advantages is that it is highly flexible, another is the fact that it provides insight into the effects of different forms of changes (such as cultural, political, social) and it can be used with either primary or secondary data.On the other hand, its disadvantages are sample mortality especially in a situation where the specific sample group is difficult to reach and a major disadvantage is the fact that specific effects of age, cohort and period are very difficult to analyze using pure statistical analysis of a standard cohort table.

- *Panel Study:* Panel studies measure a sample of respondents at different points in time. Depending on the purpose of the study, researchers can either use a continuous panel (they report specific attitudes or behaviors on a regular basis) or an interval panel(the members of this panel complete questionnaire(s) only when the information is needed). This form of longitudinal research is different from the others because it helps to identify shifting attitudes and behavioral patterns that could go unnoticed while using other research approaches. Panel studies make use of mail questionnaires, telephone interviews, personal interviews and the internet via web panels to gather necessary data (Wimmer & Dominick, 2011:226). One of the advantages of panel studies is its usefulness in answering questions about the dynamics and patterns of change; also, repeated visits and contacts with the respondents helps to build their trust in the research thereby enabling them to yield more information. Disadvantages include the difficulty experienced in recruiting members that are willing to fill out questionnaire(s) or report interviews a number of times and finally sample mortality which is a situation whereby a member of the panel drops out for one reason or the other hence, eliminating the probability of interviewing the same person at another time.

### 3.5 Focus Group Discussion

The focus group research method is also referred to as *group interviewing*; it is a qualitative method that involves a moderator interviewing 6 -12 people simultaneously and leading them in a structured, semi-structured or unstructured discussion/interview about the topic being discussed. 'It is a group interview that is held to find out how people feel about a product, service or issue' (Onabajo, 2011:75). The participants in a focus group do not necessarily go through rigorous probability-sampling methods due to the fact that the purpose of the study is to explore rather than to describe or explain in any definitive sense (Babbie, 2010:323). The steps required in conducting a focus group are: *define the problem, select a sample, determine the number of groups necessary, prepare the study mechanics, prepare the focus group materials, conduct the session* and *analyze the data and prepare a summary report*.

According to Krueger & Casey (2000) as cited in Wimmer & Dominick (2011:132), the focus group research method has four characteristics and they are:

- It involves people i.e. participants.
- All the participants must possess and share certain characteristics that are of interest to the researcher.
- This research method usually provides qualitative data that enhances understanding and reveals a wide range of opinion.
- It makes use of focused discussions where most of the questions to be asked are determined beforehand, the order in which the questions to be asked are determined and the questions are structured in a manner that will achieve the purpose for the research.

The advantages of the focus group research method as cited by Babbie (2010:323) are:

- It is a research method that is socially oriented and captures real-life data in a social environment.
- It has flexible in terms of the flexibility in the question design and follow up.
- It has high face validity.
- It has speedy results.
- It is not expensive.

Its disadvantages on the other hand include the following:

- It gives the researcher lesser control as compared to individual interviews.
- The data obtained using this research method is very difficult to analyze.
- The moderators of focus group discussions require special skills. The success of any focus group is heavily dependent on the skills of the moderator.
- Focus groups can be very difficult to assemble.
- The discussion must be conducted in a very conducive environment.

### 3.6 In-depth Interview

In-depth interview could also be called *intensive* or *depth interview.* It is a form of one-on-one interview that is highly focused and conducted to get at or bring out hidden feelings, attitudes and beliefs that a respondent is unaware of. Just like the name implies it can last for one hour or more. In-depth interviews have the following **characteristics** as cited by Wimmer & Dominick (2011:139):

- This method makes use of smaller samples.
- It allows the researcher to be able to observe the respondents' non-verbal responses for a long period of time.
- They are usually long and may last several hours or may even require more than one session.
- It provides a detailed background about the reasons respondents give specific answers.
- In-depth interviews can be customized to suit individual respondents i.e. the interviewer can phrase and structure questions based on the respondent's answer.

The **strengths** of this kind of interview are:

- The major advantage of this research method is the detailed wealth of information it provides the researcher with.
- It enables the researcher to ask follow-up questions on topics of interest over a long period of time.

- The kind of rapport between respondents and the researcher makes it easy to obtain unexpected information and approach certain topics that might be difficult to approach using other research methods.
- The researcher can adapt or improvise the questions to suit the situation as it changes.

The **weaknesses** of this research method on the other hand include(Wimmer & Dominick, 2011:139):

- The difficulty involved in analyzing the bulk of data gathered using this research method could be a problem.
- Transcribing the interview from the tape recorder used to record it can be very time-consuming.
- The researcher might not be able to generalize his/her results due to the non-random sampling used as well as the non-standard form the interview takes.
- In-depth interviews are always sensitive to interviewer's bias because interviewers may unknowingly communicate their attitudes through loaded questions or non-verbal cues.

***The Procedure for Conducting In-depth Interview***

The process involved in conducting in-depth interviews as suggested by Onabajo (2011:73):

- Create a preliminary list of the questions you want to ask during the interview.
- Record beforehand some demographic information about your respondents so as to ascertain if any relationship can be drawn between certain characteristics such as educational status, gender etc.
- Be very sensitive and lookout for non-verbal clues such as feelings or attitudes that might seem irrelevant or unimportant.
- During the course of the interview, do an audio recording and take notes on important matters while you interview each respondent.

## 4.0 Conclusion

Most of the research methods discussed in this unit are qualitative research methods that are used in obtaining or gathering data as well as answering questions that quantitative research methods cannot provide answers to. These research methods like the experimental and content analysis are very important and useful to a social scientist. They can be used individually or can also be used to complement other research methods depending on the phenomenon being studied and the ability of the researcher to recognize research situations that requires putting them to use.

## 5.0 Summary

In this unit, you have learnt the following:

- What Case Studies, Observational Research, Ethnographic Research, Longitudinal Research, Focus Group Research and In-depth Interview is all about.
- Their characteristics and procedure.
- Their strengths/advantages and weaknesses/disadvantages.

## 6.0 Tutor-Marked Assignment

Discuss the characteristics, strengths and weaknesses of case study, observational research, focus group research and in-depth interview.

## 7.0 References/Further Readings

Babbie, E. (2010). *The practice of social research* (12th Edition). Wadsworth: Cengage Learning.

Onabajo, O. (2011). *Foundations of communication research.* Lagos: Sibon Books Limited.

Wimmer, R.D. & Dominick, J.R. (2011). *Mass media research: An introduction* (9th Edition). Wadsworth: Cengage Learning.

## MODULE 4 SAMPLING

Unit 1 Meaning and types of Sampling
Unit 2 Population and Sample
Unit 3 Sampling Size and Sampling Error

## UNIT 1 MEANING AND TYPES OF SAMPLING

### 1.0 Introduction

Any good research answers the questions: *Who*? *What*? *Where*? *When*? *Why*? and *How*? This shows that research is a systematic attempt or endeavour that seeks to provide answers to questions. The focus of this section is on the How? How will the research be carried out that is the plan of action?

The 'How' of the research can also be called the methodology. After determining what to do and the methodology to adopt, the next thing is to find out those that will make up the research that is the population. Population is the totality of items or objects in a universe under study. Sometimes the word population in research is interchanged with universe.

Unless the sampling procedure is carefully planned, the conclusions of the researcher are likely to be distorted. This means that for a research to make generalizations about the entire population, the sample must be truly representative of the population. This underscores a key word in research sampling which is representativeness.

Wimmer and Dominick (2011 p.87) defines population as a group or class of subjects, variables, concepts, or phenomena. Population can be studying the entire undergraduates in a university, all daily newspapers in the country, private radio stations in the South-west, cable television subscribers and so on. A population where you know everyone is called a determinant or finite population; this means that the population is known and accessible. It is almost impossible to study an entire population except the population is actually small. This underscores the importance of sampling. When the entire members of a population are examined for a study, it is called Census or Total Enumeration method. This is covering all elements in a population when the population is small and minimal.

In sampling, it is imperative that the population of any given research be known and their characteristics so that the sample must be representative enough to generalize the findings to the entire population.

### 2.0 Objectives

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

- define the term Sampling**;**
- identify at least three reasons for sampling;
- discuss the sapling techniques;
- design a sampling frame; and

3.0 Main Content

**3.1 Meaning of Sampling**

Leedy and Ormrod (2005 p.199) asserts that "the sample of any research should be carefully chosen that, through it, the researcher is able to see all the characteristics of the total population in the same relationship that they would be seen were the researcher, in fact, to examine the total population.

A sample is a fractional or subset of the population selected for study. Fridah (2002 : 1) defines sample as a finite part of a statistical population whose properties are studied to gain information about the whole. The process of taking samples is known as sampling. *Sampling*

MacDonald and Headlam (1986) define sampling as "the process by which you reduce the total research population for a research project to a number which is practically feasible and theoretically acceptable."

Fridah (2002:1) goes further to define sampling as the act, process, or technique of selecting a suitable sample, or a representative part of a population for the purpose of determining parameters or characteristics of the whole population.

Sampling is also a technique of drawing samples, i.e., collecting data from a part of the population to reveal the characteristics of the entire population.

For example, if one prepares a pot of stew and wants to know whether the stew needs more salt or seasoning, one would not need to gulp the entire stew to find out but only needs to take a little to taste for salt or seasoning. This shows that a little spoon of the stew can help the cook know how the entire pot of stew tastes. This means that the sample can help a researcher determine the characteristics of the entire population. This also underscores the importance of appropriate selection of the sample for any research.

Sampling calls for three decisions- who will be surveyed that is the sample, how many people will be surveyed that is the sample size and how the sample should be chosen that is the sampling or sampling technique. For the sample, the researcher has to determine what type of information is needed and who is most likely to supply it. For the sampling size, it should be noted that larger samples most times give reliable results though in most cases the entire population cannot be studied. For the sampling technique, the researcher is to consider whether the sample members will be chosen at random (probability) or if the researcher will select people who are easier to obtain information from (non-probability).

**3.2 Reasons for Sampling**

Since it is not possible to study an entire population, it is important to take samples for the following reasons:

i. **Cost/economy**: Austin and Pinkleton (2006 p.97) opine that sampling helps researchers get accurate information quickly at a relatively low cost and provides them with cost-effective ways to collect information from a relatively small number of target audience members and draw conclusion s about an entire target audience. It is cheaper to observe a part of the population rather than the whole.
ii. **Timeliness:** to study an entire population will be time consuming as compared to drawing a sample.

iii. **The large size of the population**: the big size of a population makes it physically impossible to conduct a census or total enumeration.
iv. **Accuracy**: taking samples will make the work accurate in that it will be thorough as compared to studying an entire population that might be very large. The goal of a researcher is to accurately represent a population.
v. **The partly accessible populations:** there are populations that are difficult to access like those in prisons, crashed planes in oceans etc.

**Self-assessment exercise**

1. What is sampling and what are some of the reasons for taking a sample?

2. Sampling calls for three decisions, what are they?

### 3.3 Sampling Technique

Sampling techniques is defined as the scientific procedure of drawing samples from a given population. There are two broad sampling techniques- probability and non-probability sampling techniques. The nature of the research determines which technique to adopt, for instance, if a researcher wants to study a population because of some peculiar characteristics, he/she adopts a purposive sampling technique, and where he/she needs to sample a population because of their availability, then the convenience or accidental sampling technique is used. Sampling is done to access hidden or hard to reach populations like prostitutes, drug addicts etc., in such situation, snowball sampling is imperative because once one person has been reached, he/she could give a lead on how to meet others in that category.

### 3.4 Sampling Frame

A sampling frame is also a document or record that contains all the items or objects in a universe of study. Wimmer and Dominick (2011) define sampling frame as the complete list of members in the population. Austin and Pinkleton (2006 p.101) define sampling frame as "a list of members of a population." Sampling frame is used by researchers to determine who will be included in the sample.
MacDonald and Headlam (1986) assert that sampling frame is the listing of the accessible population from which a sample is drawn.

Example of a sample frame can be telephone book, voters list, house addresses, names of individuals. MacDonald and Headlam (1986) opine that a "sampling frame needs to be accurate, complete, up-to-date and relevant to the purposes of the survey for which it is to be used." It is from the sample frame that the sample is drawn. The procedure of listing all accessible members of the population is the sampling frame.

### 4.0 Conclusion

Thus we can say that the importance of sampling in research is inestimable. It is almost impossible to study an entire population so it is important to do sampling. The researcher has to determine who will be surveyed, what the sample size will be and how the sample size will be drawn that is the technique; they should also determine where the sample size will be drawn from (sample frame).

**5.0 Summary**

This unit looked at what sampling is and discussed the reasons for sampling in research. It also talked about what a sampling frame is and the technique to be adopted in choosing a sample.

6.0 **Tutor-Marked Assignment**

. What is a sampling frame and why is it important?

## 7.0 References/Further Readings


Austin, E. W. and Pinkleton, B. E. (2006). *Strategic Public Relations Management: Planning and Managing Effective Communication Programs.* 2nd Ed. New Jersey: Lawrence Erlbaum Associates, Inc.

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MacDonald, S. and Headlam, N. (1986). Research Methods Handbook: Introductory guide to research methods for social research. Manchester: Centre for Local Economic Strategies. http://www.cles.org.uk/wp-content/uploads/2011/01/Research-Methods-Handbook.pdf.

Research Methodology (For Private Circulation Only). http://www.ihmgwalior.net/pdf/research_methodology.pdf.

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**UNIT 2 POPULATION AND SAMPLE**
**CONTENTS**

1.0 **Introduction**

This unit looks at the types of sampling techniques and the differences. It also explains when it is appropriate to use any of them. The population of a study are the units or objects the researcher is interested in studying. Population can be animate as in humans and inanimate as in objects, institutions or organisations etc. Samples are draw to ease the stress of studying an entire population and also to save time and cost.

2.0 **Objectives**

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

- define some key terms such as: population, Sample, Probability and non-probability techniques;
- differentiate between Probability and Non-Probability Samples; and
- Identify at least 3 each, of probability and non-probability samples;

3.0 **Main Content**

**3.1 Definition of Key Terms**

A population is a group of individuals, persons, objects, or items from which samples are taken for measurement. Austin and Pinkleton (2006 p.98) define population also called universe as members of a group or an entire collection of objects."

A population can be animate or inanimate objects. Animate population as in humans and inanimate population as in newspapers, music clips, video clips, and other media content. Austin and Pinkleton (2006 p.98) assert that when researchers conduct a census they collect information from all members of a population to measure their attitudes, opinions, behaviours and other characteristics.

As stated in http://dissertation.laerd.com/sampling-the-basics.php, population stands for the units that a researcher is interested in studying. The units could be people, cases and pieces of data.

**3.2 Types of Sampling**

There are many methods by which researchers draw samples from the population. The type of research also determines which sampling method to use. When researchers draw samples, their goal is to represent a population and make inferences of that population based on the information they get from the sample.

There are two main types of sampling method namely- Probability and non-probability sampling. Some researchers say probability sampling is more ideal in that it gives everyone in the population a chance of been selected and it also increases the likelihood of obtaining samples that are representative of the population. Probability sampling methods include:

- Simple random sampling
- Stratified sampling
- Cluster sampling
- Systematic sampling

Non-probability sampling methods are:

- Purposive sampling (judgment sampling)
- Convenience sampling (available/accidental sampling)
- Snowball sampling
- Quota sampling

These will be discussed elaborately below.

### 3.2.1 Probability Sampling

Probability sampling is the sampling method that increases the likelihood of obtaining samples that are representative of the population. They provide credible results because they reflect the characteristics of the select population. According to O'Connor (2011), researchers are to use a probabilistic sampling approach if the purpose of the research is to draw conclusions or make predictions affecting the population as a whole. In using the probability sampling method, all units of the population must be identified and must have a chance of being selected into the sample.

Techniques under the probability sample are as follows:

1. Simple random sampling
2. Stratified sampling
3. Cluster sampling
4. Systematic sampling

1. **Simple random sample**: a simple random sampling is one in which every member of a population is identified and given an equal chance of being included in the sample. To obtain a simple random sampling, names can be put on slips of paper and drawn from a hat, one after the other. Selection of one unit does not affect the chances of any other unit).

According to http://dissertation.laerd.com/simple-random-sampling.php to create a simple random sampling, there are six steps to follow:

a. Define the population
b. Choose your sample size
c. List the population
d. Assign numbers to the units
e. Find random numbers
f. Select your sample

For instance, if a researcher is to study National Open University students' newspaper readership habits, the first thing to do is to determine the population of students in the school. If the population is 5,000 then the sampling frame is all 5,000 students in the school. Population is

usually expressed as *N* while sample is expressed as *n*. The next step is to choose the sample size; the budget and time period of the research can determine what the sample size will be. The next thing to do is to list the members of the population. To get the list of the population for our example above, one would need to go to the University Registry that is the students' records unit to get the list of students. The next thing to do is to assign numbers to the students on the list that is from 1-5,000. After which they are picked randomly. To pick sample, one can make use of the table of random tables or pick randomly from a hat after writing all numbers on slips of paper. After this is done, then the sample is selected. A table of random numbers consists of numbers that are unrelated to each other or to anything else. The first number can be 00, then 01, 02, 03... 5000. The researcher starts by picking a first number then go on picking till he/she has got the sample size required for the research.

The following are advantages and disadvantages of the simple random sampling technique as stated in http://dissertation.laerd.com/simple-random-sampling.php:

**Advantages of simple random sampling**

It provides a sample that is highly representative of the population being studied. It also reduces the potential for human bias in the selection of units to be included in the sample. The simple random sampling also allows for making generalizations that is, statistical inferences from the sample to the population. This is regarded a major advantage because such generalizations are considered to have external validity.

**Disadvantages of simple random sampling**

In carrying out a research using the simple random sample technique, the list of the population must be available and complete**.** This poses a difficulty because the list of the population might not be available and also accessible. Other challenges in getting the list can be because even if the list is available, there might be a challenge in accessing it because those involved refuse to release it for reasons known to them. Another difficulty is that there might be no single list detailing the target population. It will be difficult and time-consuming to get the list together when there is no detailed list. Also, in terms of human population, reaching or contacting some of the members of the population that is if the list contains their contact information can be expensive and time-consuming and also when they are scattered in different locations.

2. **Systematic random sampling**: according to Patten (2007 p.47) in systematic sampling, every *n*th individual is selected. The number *n* can be any number for instance three, using the systematic sampling will be selecting every 3rd person or number in the population. In systematic sampling, rather than referring to random number tables to select the cases that will be included in the sample, units are selected directly from the sample frame..

   This method is useful for selecting large samples and is less cumbersome than a simple random sample using either a table of random numbers or a lottery method.

As stated in http://dissertation.laerd.com/systematic-random-sampling.php there are seven steps to do a systematic sampling:

a. Define the population
b. Choose your sample size
c. List the population
d. Assign numbers to cases
e. Calculate the sampling fraction
f. Select the first unit
g. Select your sample

Using the example above, we have a population of 5,000 students. For the purpose of this research, our sample is 200. The list of the population will then be got from the Students' records department. Numbers will then be assigned to each unit in the population. The sample fraction will then be worked out that is the sample size selected (*n*) divided by the population size (*N*).

n/N= 200/5000= 1/25 (i.e. 1 in 25)

From the calculation we need to select 1 in every 25 students from the population of 5,000 students. This will be done 200 times for us to get a sample of 200 respondents. After this, the first unit will be selected; in this case, we can now use the table of random numbers to select the first object. Assuming the first number on the table of random numbers is 0007; we delete the first three digits and stick to 7, and 7 falls within 1-25. The first person to be picked is $7^{th}$ out of the population. After first person is chosen, the other 199 remain to complete the 200 sample size. Since we are choosing 1 in every 25 persons, with $7^{th}$ as the first unit, then we select every $25^{th}$ person in the population. This means we select $7^{th}$, $32^{nd}$, $55^{th}$, $80^{th}$, till we get the entire 200 for the research sample.

According to http://dissertation.laerd.com/systematic-random-sampling.php the advantages of the systematic random sampling are similar to that of the simple random sampling which is making generalizations to the entire population and that the sample is highly representative of the population however the systematic techniques improves the potential for the units to be more evenly spread over the population.

The disadvantages (limitations) of systematic random sampling are also similar to the simple random sampling in that a systematic random sample can only be carried out if a complete list of the population is available. Also the way a list is arranged can give room for bias because the list can be arranged in a way that for instance only males will be chosen, this can however be avoided.

3. **Stratified random sampling**: in using a stratified sampling, the population is divided up into groups with similar characteristics then members are selected randomly from within these groups. O'Connor (2011) asserts that "this method is appropriate when a researcher is interested in correcting for gender, race, or age disparities in your population.

A stratified sample is also defined as "a sampling technique in which the researcher divided the entire target population into different subgroups, or strata, and then randomly selects the final subjects proportionally from the different strata" (Crossman, 2013). In using a stratified sampling, the researcher could be interested in studying a particular group(s) within the population that is the reason why the population is divided in groups according to the interest of the researcher(s). For instance the population of the students of NOUN could be divided into male and female, according to level, age etc. Using gender as the basis for stratification, after dividing them in groups, there would be an equal chance that each male or female will be selected.

According to Patten (2007 p.49) when using the stratified sampling technique, researchers usually draw the same percentage of participants not the same number of participants from each stratum. For example if in NOUN there are 3,000 women and 2,000 men in the population and the researcher wants a sample size of 500, the researcher will draw 10% of the women (i.e. 10% of 3000= 300) and 10% 0f the men (i.e. 10% 0f 2000= 200) totalling 500.

In using a stratified sampling technique, there are also some steps to follow:

The first step is to define the population which from our example is 5,000 students. The next is to choose the relevant stratification which for our example is gender- male and female. After choosing the basis for stratification, the next is to list the population or get it from the relevant quarters. The population should then be listed according to the chosen stratification. Using gender, we will then have a list for males and have a list for females. From there the sample size is chosen. Since in stratified we are concerned with equal percentage from the groups, we then calculate a proportionate stratification as we did above, 10% of males and 10% of females. Finally, we use a simple random or systematic sample to select the sample.

Patten (2007 p.50) states that the primary purpose of stratification is to ensure that different sub-groups are represented in the correct proportions. He further states that goal in stratification is not to make comparisons across sub-groups but to obtain a single sample that is representative in terms of the stratification variables (p.50).

One advantage of the stratified random sample according to http://dissertation.laerd.com/stratified-random-sampling.php is that it "improves the representation of particular strata (groups) within the population, as well as ensuring that these strata are not over-represented."

For the disadvantage, clearly delineating the population into each stratum can be challenging depending on the stratification criteria. For instance dividing the population into male and female can be easy where the list is also very available and accessible, but when the list is hardly accessible and one needs to break students down into undergraduates and postgraduates- it can be tasking and time-consuming.

4. **Cluster sampling**: with this technique, the population is divided into mutually exclusive groups such from which the researcher draws a sample of the groups. 'Cluster sampling is used when researchers recognise that some populations are distributed in pockets of settlement and the researcher wants to use the cluster as basis for selection' (Tejumaiye 2003 p.45). 'A cluster sample is one in which you have elements of population dispersed geographically' (Adeyemi & Odebunmi 2005 p. 85). Cluster sample is selection of samples in groups or categories.

Patten (2007 p.51) opines that in cluster sampling, researchers draw groups or clusters of participants instead of drawing individuals. Austin and Pinkleton (2006 p.109) corroborates Patten (2007) assertion that the sample frame in cluster sampling consists of clusters instead of individuals. They further state that the clusters are pre-existing natural groups or administrative groups of the population. Examples are: neighbourhoods, cities, countries, schools, hospitals.

Herek (2012) asserts that in cluster sampling, a researcher selects the sample in stages- first selecting groups of elements, or clusters (e.g., city blocks, census tracts, schools), and then selecting individual elements from each cluster (e.g., randomly or by systematic sampling). To avoid bias, the clusters need to be selected at random. Cluster sampling is used in large geographic samples where no list is available of all the units in the population but the population boundaries can be well-defined.

The major drawback of cluster sampling according to Patten (2002:51) is the fact that each cluster tends to be more homogenous in a variety of ways than the population as a whole.

For instance, if one wants to carry out a research on Ogun state public servants, the first thing to do is to divide them in clusters. There are twenty local governments in Ogun state; therefore to get the sample population the local governments would be divided into clusters using the four major ethnic entities in the state, that is, Yewa, Ijebu, Egba and Remo. The simple random technique will then be used to select a local government from each cluster. Let us say we select Ipokia from Yewa, Ijebu from Ijebu, Ifo from Egba, and Ikenne from Remo. From there, one can know the population of the chosen groups and from there draw a sample.

**Self Assessment Exercise**
What is the difference between cluster and stratified sampling?

### 3.2.2 Non-Probability Sampling

**Non-probability (non-random) samples**
Non-probability sampling is sampling selected based on the researchers judgment. One characteristic of the method is that samples are selected based on the subjective judgement of the researcher, rather than the random selection of the probabilistic sampling methods. For this reason some researchers especially from the quantitative school think the non-probability sampling methods are inferior and unscientific compared to their probability counterparts.
O'Connor (2011) opines that the non-probabilistic sampling approach is used if researchers are only interested in seeing how a small group, perhaps even a representative group, is doing for purposes of illustration or explanation.

These samples focus on volunteers, easily available units, or those that just happen to be present when the research is done. Non-probability samples are useful for quick and cheap studies, for case studies, for qualitative research, for pilot studies, and for developing hypotheses for future research

Sampling techniques under the non-probability sampling method are:

1. Convenience sampling
2. Purposive sampling
3. Snowball sampling
4. Quota sampling

These samples focus on volunteers, easily available units, or those that just happen to be present when the research is done. Non-probability samples are useful for quick and cheap studies, for case studies, for qualitative research, for pilot studies, and for developing hypotheses for future research.

1. **Convenience sample**: this is reliance on available subjects. It is also called accidental, available or opportunity sampling. It is a technique used by researchers to select easy –to-reach samples.

Using our earlier example of studying newspaper readership habits of NOUN students with our *N* as 5,000, to access the samples for the study, one can stand at strategic points in the school to reach the students. It could be at the cafeteria, students lodge etc. The researcher will keep administering or interviewing the students he/she gets the required sample size for the research.

Some advantages of this technique according to dissertation.laerd.com/convenience-sampling.php are that: it is very easy to carry out with few rules governing how the sample should be collected; the time and cost of the research are small and inexpensive and the required sample size can be reached in a relatively fast and inexpensive way. Some disadvantages are that: the convenience sample often suffers from biases; in the absence of a sampling frame and samples are not chosen at random then the findings of the study cannot be generalisable to the population. Also according to Crossman (2013), it does not allow the researcher to have any control over the representativeness of the sample.

2. **Purposive sample**: also known as judgmental, selective or subjective sampling**.** This type of technique is where a researcher selects a sample based on his judgment. Crossman (2013) defines this technique as one that is selected based on the knowledge of a population and the purpose of the study. Patten (2007 p.51) opines that purposive is used when researchers select individuals whom they believe will be good sources of information. Samples are selected based on their specific characteristics.

According to Wimmer and Dominick (2011 p.94) purposive samples are used frequently in mass media when researchers select respondents who use a specific medium and are asked specific questions about that medium. Purposive sample can be researcher bias as the sampling procedure is based on the judgement of the researcher.

3. **Snowball Sample:** this is useful when attempting to locate participants who are hard to find. These could include populations such as drug addicts, homeless people, people

living with HIV/AIDS, prostitutes, migrant workers, or undocumented immigrants. Such populations can be hard-to-reach and/or hidden because they exhibit some kind of social stigma, illicit or illegal behaviours, or other trait that makes them atypical and/or socially marginalized.

Crossman (2013) asserts that "a snowball sample is one in which the researcher collects data on the few members of the target population he or she can locate, then asks those individuals to provide information needed to locate other members of that population whom they know. "

For instance, suppose a researcher wants to study heroine addicts who have received treatment and now leading normal lives, how can they be found? The first thing to do is to find one person, if the researcher can convince that one person on the importance of his research and promise confidentiality then there is tendency that this one person can lead the researcher to others like him/her.

According to Wimmer and Dominick (2011 p.94) this approach is known as referrals in private sector research. This technique according to Patten (2007 p.51) is based on trust. This means that if the first set of participants trusts the researcher, they may identify and convince other potential participants to trust the researcher also.

4. **Quota sample**: Austin and Pinkleton (2006 p.103) state that when researchers use this method, they are often interested in the subgroups that exist in a population and draw their samples so that it contains the same proportion of subgroups. Quotas can be based on a small number of characteristics such as age, sex, education, gender, race, type of employment, education etc. Crossman (2013) states that a quota sample is one in which units are selected into a sample on the basis of pre-specified characteristics so that the total sample has the same distribution of characteristics assumed to exist in the population being studied. For example a researcher might want to know what proportion of the population is male and what proportion is female and what proportion of both fall into other categories such as age, education, race etc.

As stated in http://www.csulb.edu/~msaintg/ppa696/696sampl.htm the differences between Probability sampling and Non-Probability sampling methods is illustrated below:

| Probability sampling | non-probability sampling |
|---|---|
| 1. Allows use of statistics, tests hypotheses | Exploratory research, generates hypotheses |
| 2. Can estimate population parameters | Population parameters are not of interest |
| 3. Eliminates bias | Adequacy of the sample can't be known |
| 4. Must have random selection of units | Cheaper, easier, quicker to carry out |

### 3.2.3 Other Sampling Techniques

Other sampling techniques are- multi-stage sampling,

## 4.0 Conclusion

This unit looked at the two broad sampling techniques- probability and non-probability sampling techniques and the techniques under the two. Probability technique gives an equal chance to every member of the population to be selected while non-probability samples are chosen purposively or according to the convenience of the researcher(s).

## 6.0 Summary

This unit looked at the two broad categories of sampling and explained techniques under both and when they are appropriate for any research.

## 7.0 Tutor-Marked Assignment

1. What are some differences between probability and non-probability sampling?
2. When are non-probabilistic samples best used?

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**UNIT 3 SAMPLE SIZE AND SAMPLING ERROR**
**CONTENTS**



1.0 **Introduction**
As established in subsequent units of this module, sample is important in research as the entire universe or population can be hardly studied especially where the population is large. This underscores the reason for sampling where only a sizable and representative number of the population will be chosen for the research.

2.0 **Objectives**
By the end of this unit you should be able to:
· identify a truly representative sample;
· determine how large a given research sample should be;
· define sampling error; and
· identify the causes of sampling error.

3.0 **Main Content**
3.1 **Determining the Sample Size**
Determining the sample size is a very important aspect of the research because the sample could determine how valid the result of the research will be. Some people will say that to get a sample, one can use 10% or 20% of the population of study to get the sample size. At the undergraduate level, students choose whatever sample is convenient for them but at a more advanced level, some formulae have been provided to solve for the appropriate sample for a given population. Whatever the case, the process of sampling can be a tedious one but it is important as the size of the sample can affect the results of the study and its ability to be generalisable to the entire population of study; it can also ensure the reduction of bias and errors when sampling.

## 3.2 **Sample Size**

The sample size is simply the number of units in your sample. One cannot say exactly what sample size is appropriate; the sample size depends on the size of the population and the purpose of the research. The key word in sampling as established is representativeness; Cohen, Manion and Morrison (2000) assert that to ensure validity of the research, the researcher must ensure the sample represents the whole population in question. The sample size selected for a study can have a significant impact on the quality of the results/findings of the research. At the undergraduate level, sample size for a research can be constrained by time and also cost.

Researchers should also understand that the nature of the research whether quantitative or qualitative will determine how large or small the sample size will be. In a quantitative research which gives more to statistical analysis, the sample size needs to be large enough to be meaningful while for a qualitative study, the sample size needs to be smaller to enable the researcher gather more in-depth data.

Just as no one can determine what sample is appropriate, some researchers tend to use sample size calculations to be able to come up with samples representative of the population under study. To this end, a formula was provided by Yamane (1974) as cited by Evborokhai (2009). The formula is illustrated as:

$$n = \frac{(N)}{1+N\,(0.05)^2}$$

Where

n = sample size

N = population

1 is constant

E= level of significance chosen $(0.05)^2$

Tejumaiye (2003:50) lists some principles that guide researchers in determining an acceptable sample size:

1. Methodology to be used: in the event that the methodology is survey, the sample will be larger but if it is a focus group, panel studies then the sample will be smaller.
2. Cost and time: especially for undergraduate research, using a larger sample might be expensive so the sample size is usually smaller maybe from 150 and above.
3. Attrition: it is assumed that members of the sample may drop out of the research at any time so there is need to make allowance for this drop when planning the sample.

## 3.3 **Sampling Error**

Sample error can only occur where you draw a sample from the population but where you do a census or use the total enumeration method, there would be no sample error because everyone in the population was asked the question.
Castillo (2009) elucidates that "sampling error is the deviation of the selected sample from the true characteristics, traits, behaviours, qualities or figures of the entire population."

According to Herek (2012), the sampling error is a number that describes the precision of an estimate from any one of those samples. It is usually expressed as a margin of error associated with a statistical level of confidence. Tejumaiye (2003 p.51) says sampling error is the degree to which measurement obtained from a sample differs from the measurement hat would be obtained from the population. Error in sampling is considered because a sample does not provide the exact data a population would.

On the reason why error could occur in sampling, Castillo (2009) further posits that it happens because researchers draw different subjects from the same population and subjects have individual differences. He further adds that there could be a difference between the sample and the population from which the sample was drawn.

According to Castillo (2009) the most frequent cause of error in sampling is bias in the sampling procedure. This means that when choosing a sample, the researcher must endeavour to select a sample free from bias and that is representative of the population. It should be noted that increase in the sample size approaches the size of the entire population thus portraying all characteristics of the sample size; this decreases the sampling process error. Herek (2012) corroborates that smaller sample e.g., those with fewer than 1,000 respondents have greater sampling error than larger samples. It is also called margin of error and is associated with a statistical level of confidence.

Level of confidence or significance is the maximum probability with which we would be willing to risk a Type 1 error in testing a given hypothesis. Some researchers give a 95% level of confidence to their work and are willing to use 5% as the error margin to test the results of their research. One way to eliminate sampling error is to test the entire population though this is impossible. This means that the process of selecting a sample must be unbiased and the sample should be larger.

## 4.0 **Conclusion**

Except in the event of a census, it is important to take samples of a study population. When taking samples it is important to take into consideration that the sample must be generalisable to the entire population. However when choosing samples, it is important t to choose a larger sample as this will help to reduce the sampling error that could invalidate the result of the research.

## 5.0 **Summary**

This unit looked at sample size and sampling error as two very important aspects of the research process. Sampling is important primarily because it helps save time and reduces cost. When choosing the sample size from the research, it is important to take into consideration the fact that the results of the research especially for a probability sample must be generalised to stand for the entire population of study. In choosing the sample size, error must be taken into consideration and as such the researcher must try to eliminate bias from the process.

6.0 **Tutor-Marked Assignment**

1. What do you understand by representativeness in sampling?
2. What is one way to reduce error in sampling?

## 7.0 References/Further Readings


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**MODULE 5 THE RESEARCH PROCEDURE**

Unit 1: The Research Proposal

Unit 2: Data Analysis in Communication Research

Unit 3: Documentation in Communication Research

**UNIT 1: THE RESEARCH PROPOSAL**

**CONTENTS**



## 1.0 INTRODUCTION

The undergraduate project is often the first major piece of independent research that a student will undertake. In every Nigerian University and other Universities of the world, one of the basic requirements for every final year undergraduate student is writing and submitting a standard

research project. Without fulfilling this requirement, an undergraduate student cannot graduate from the University hence the need to have adequate knowledge of what it entails. In order to fulfill and meet this requirement, there is a need for students to know and understand what a research proposal is all about, the different parts of a research proposal and how to go about writing a standard research proposal. The process of writing a research proposal will help you to think carefully about many aspects of your proposed research. If you embark on a research project without adequate preparation, you run the risk of discovering as you go along that what you have decided to research on is too large, too small, impossible, or full of contradictions and very confusing.

## 2.0 Objectives

By the time you are through with this unit, you should be able to explain the following:

- The meaning of the research proposal;
- The different essential parts of the research proposal; and
- How to write the research proposal.

## 3.0 Main Content

### 3.1 Meaning of the Research Proposal

Undertaking a research project at the undergraduate level entails taking series of steps. The first and most important amongst these various steps after the topic selection is writing a research proposal. As a student-researcher, you are expected to present a research proposal to the project supervisor you have been assigned to. Undertaking your research project is subject to your supervisor's approval of your research proposal, hence, the need to be able to write a standard research proposal. The research proposal helps you to sit down and clarify your own thinking about the research project you want to write as well as enable the department to determine whether or not your research project is viable and can be carried out successfully.

.A research proposal (also known as "pre-field") is an intention of what you want to do; it is a plan put forward by the student-researcher for acceptance (Tejumaiye, 2003). According to Oluyombo (2011:57), "a research proposal is an outline prepared by a research student or researcher which states the main issue to be covered in the research such as the topic, research objectives, research questions, research proposition and/or hypothesis and methods to be adopted in data collection and analyses". Just as lecturers prepare course outlines for their students, a research proposal is also an outline that students who want to engage in academic research in order to meet the requirement for graduation prepare for their project supervisors. It is very important to note that your research process is incomplete without a research proposal.

Some research proposals are in-depth and elaborate while others are not, some are within 3-5 pages and others could be more. Irrespective of the depth or number of pages, a standard research proposal is made up of three chapters. However, before we discuss these three chapters, it is important that we talk about the first step in the whole research process – Selection of a researchable topic.

There are certain indicators to look out to determine whether or not your research proposal is a success. These success indicators according to Olayinka and Owumi (2006:79) include:

- A clearly stated and defined research question(s);
- Appropriate and relevant literature which provides a background to the problem;
- Clearly stated conceptual framework and theoretical framework or assumptions;
- The use of the right design and methodology;
- The use of other sources or works to identify/support the problem being researched;
- Clearly stated and specified objectives; and
- Enhances and aids further research.

### 3.2 Parts of the Research Proposal

#### 3.2.1 Selection of a Researchable Topic

One of the major challenges you will face as an undergraduate writing a research project for the first time is how to choose a good researchable topic. By researchable topic, we mean a topic that is feasible, a research topic that is relevant to the student's course of study and can be carried out within the approved time frame or deadline. Being a first-timer in this regard, the question that probably keeps coming to mind is: how can I generate a researchable topic or idea .However, there are sources that have been made available for students like you when searching for a researchable topic. According to Tejumaiye (2003), these sources include:

- Academic journals e.g. Unilag Communication Review, Journal of Mass Communication and Journalism, Nordicom Review, Journalism and Mass Communication Quarterly etc.
- Magazines and Periodicals – weekly publications, monthlies etc.
- Reading daily newspapers, watching television or listening to the radio
- Everyday encounters e.g. while talking with friends or colleagues
- Data archives e.g. Research and Marketing Services (RMS), ZUS Bureau, the Gallup and Roper organizations, libraries etc.
- Interacting with your supervisor or experienced professionals or academics in the chosen field of research

Once you have access to any of these sources, selecting a researchable topic is not so difficult anymore; however, it is not enough to have a knowledge of the sources available to you as a student-researcher, it is also important that you ensure that the topic you have selected is researchable and relevant. Tejumaiye (2003) and Wimmer & Dominick (2000)positthat you can determine whether or not a topic is researchable and relevant by asking the following questions:

- **Is the topic too broad?** As a beginning researcher, avoid a topic that is too broad because you might end up having more data than you can handle or eventually find out that you cannot go on with the research either because you are stuck or the cost/time needed to carry out the research is more than you can handle. For example, a topic such as *'the effects of the social media on students'* is too broad because the social media is a very broad field. It is better written as *'the effects of Facebook/Twitter/Blackberry on students'*. It is important that your topic is not too broad so that you would be able to handle and manage it efficiently and effectively.
- **Can the problem really be investigated?** This has to do with ensuring that there are answers to the questions that your research problem has generated. Here you ask yourself whether or not the information and facilities you have at your disposal is sufficient to

provide a solution to your research problem. For instance, a researcher that wants to find out how students use their blackberry would encounter a problem if he finds out that a larger percentage of students do not use blackberry. Also, in ensuring that the problem is researchable, there is a need for you to ensure that all the terms to be used in your study can be operationally defined to suit the purpose of the study.

- **Is the problem significant?** This has to do with ensuring that the topic is relevant to man, to the society and to the addition of knowledge to information already available in the field of study. You must determine whether or not the proposed study has merit i.e. whether the results will have practical or theoretical value.
- **Can the results of the study be generalized?** i.e. does the research work have external validity such that you can generalize from it and relate it to other situations? A positive answer to this question shows that that the proposed research is one that adds value.
- **Is the planned approach/methodology appropriate?** Using the right and appropriate methodology is very important; it's so important that it can either make or mar the research. Let the nature of the research determine the methodology that will be used. For example, a study on the use of blackberry by students will require sharing a questionnaire and using the survey method; deciding to use content analysis for this kind of study will be highly inappropriate.
- **What costs and time are involved in the analysis?** Before carrying out the research, you have to count your cost by preempting beforehand whether or not you would be able to bear the cost needed for the research. This is done in order to ensure that the research does not become an abandoned project. Time is also a very important factor that needs to be put into consideration. You must ensure that the research you are undertaking will be completed within the timeframe or deadline provided.

**Chapter One: Introduction**

This particular chapter of an undergraduate research project takes different titles which includes the following:

- Background to the study
- Introduction
- Statement of problem
- Background and Statement
- The problem
- Research background etc.

However, on a general note, using the title 'introduction' is more appropriate because it implies that you are introducing the research subject or topic to the readers thereby summarizing the whole purpose of the chapter. The outlines/sections in chapter one includes the following:

**Chapter One: Introduction**

- Background to the Study
- Statement of the Research Problem
- Research Questions/Hypotheses

- Purpose of Study
- Significance of Study
- Scope (De-limitation) of Study
- Limitations of Study
- Operational Definition of Terms

1. **Background to the Study**

   The background to the study is the section that enables you to give underground information about the research problem you want to study; it helps to introduce your readers to the study proper. Here, you give a comprehensive summary of what your research problem is all about such that your readers would want to know more about the research problem. The background to the study most times entails documenting the historical perspective of the research problem being studied.

2. **Statement of the Research Problem**

   This section has to do with stating the research problem that is to be studied. Here the student-researcher has to state in clear terms, what exactly he/she is studying. Usually, this section should be very concise and straight to the subject of interest. According to Soyombo (1996), the statement of the research problem has to do with the researcher introducing the research topic to the reader by stating the problem, and explaining why he/she considers it to be a problem that is worthy of attention or study The statement of research problem usually ends in three forms: a statement, question or hypothesis. Let's consider the following examples/samples:

   **Example 1**

   Topic: Zenith Bank Plc. and Corporate Social Responsibility by Ogene, A.M. (2010)

   **Statement of Research Problem**

   Against the backdrop of Zenith Bank Plc. being one of the biggest and profitable banks in Nigeria, this study seeks to investigate their commitment to corporate social responsibility (CSR). One of the catch phrases of public relations (of which corporate social responsibility is a component) is doing good and getting credits for it. In this regard, this study seeks to investigate whether the investment of Zenith bank plc. in CSR is appropriately communicated to its target publics. In a nut shell, the problem which this study seeks to investigate is this: Is Zenith bank Plc. socially responsible to its host communities? If it is, how much has it invested in CSR from 2005-2009?

   **N.B.:** The above is an example of a statement of research problem that takes the question format.

   **Example 2**

   Topic: Radio Listenership among Redeemer's University and Babcock University Students by Folasade, A.O. (2011).

   **Statement of Research Problem**

   Most radio stations have various strategies in promoting and attracting listeners to listen to their news with the growing competition from different stations and programmes coupled with the advent of the internet, getting students to news is very difficult, if not impossible. These days, it is however common to see students of higher institutions who

know little or nothing about what is going on in their environment. Many of them prefer to plug their ears with ear phones listening to music or watching movies on their mobile phones and laptops.

Since students are one of the most important audiences of radio stations, this study therefore sought to ascertain whether or not the students of Redeemer's University and Babcock University listen to radio news.

**3. Research Questions/Hypotheses**

Research questions or hypotheses are generated from the research problem; they are the questions that the research being undertaken seeks to answer. Research questions are similar to hypotheses except that a hypothesis is a statement about how two or more variables related to the research problem are expected to be related. Both research questions and hypotheses can be used in a research project but as beginners, it is advisable that you use only one of them.

**4. Purpose of Study**

Every researcher including a beginner like you always have a clear-cut reason(s) or objectives for carrying out a research. The purpose or objectives of study states the reason why the research is being carried out and it must be stated clearly and in a concise manner. Here, you convince your readers/supervisor by giving justifications for carrying out the research as well as stating clearly the results you seek to achieve by undertaking the research.

**5. Significance of Study**

According to Oluyombo (2011:63), 'the significance of study in any research is the selling point of that research because it enables the prospective reader(s) of your proposal and your project supervisor to develop interest in reading the proposal/project'. It has to do with clearly stating what makes the research you want to undertake unique and important. The significance of the study could be that the student-researcher is undertaking a research that is entirely new or has not been done before; it could be that the student-researcher is improving on another person's research or study or adding more knowledge to the existing information in a field of study. The researcher must state the significance of the study to communication research, policy/decision makers, to students and academics in the field of study and to the society at large.

**6. Scope (De-limitation) of Study**

The scope of study is very important for beginners because it enables you delimit and reduce how much you would have to cover in your research. Your scope of study allows your supervisor know where your research starts and where it ends, thus allowing your supervisor guide you appropriately such that when you begin to go off track, he/she points you back to your scope of study. Delimiting your study allows you to capture the focus and the whole essence of your research accurately. For instance, if your study is 'the coverage of corruption by Nigerian newspapers', there is a need for you to delimit your study by selecting the number of months/years you would like to study/analyze in your research.

7. **Limitations of Study**
   Limitations of study have to do with the problems encountered by the researcher in the process of conducting the research. Such limitations include: lack of sufficient time and financial resources, inability to access reliable data, refusal of the respondents to supply the data needed for the study etc. Most times, it is advisable to write this section after the study must have been carried out.

8. **Operational Definition of Terms**
   Operational definition of terms or concepts has to do with giving working definitions for the concepts or terms in the research project such that it suits the purpose for the research. This implies that the researcher has to explain the usage and meaning of certain concepts as it relates to the research being carried out.

From all that has been explained thus far, we can see that chapter one is all about introducing the research problem to the reader(s) or project supervisor. In this chapter, the researcher gives a background of what the research is all about, indicates the purpose for carrying out the research, states the importance or value of the research to the society at large, specifies the time frame for carrying out the research and indicates and identifies the variables in the study and gives operational definitions to the concepts identified in the study. In summary, this chapter is the foundational chapter for subsequent chapters in the research project. If the researcher does not get this chapter right, every other chapter and the research project would suffer for it.

### 3.2.3 Chapter Two: Literature Review/Theoretical Framework

Chapter two also goes by different titles as is the case in chapter one. These titles include:

- Literature review
- Literature review and theoretical framework
- Review of relevant literature
- Conceptual/theoretical framework
- Theoretical framework
- Review of pertinent literature

Of all these titles listed above, literature review and theoretical framework is considered the best title to be used for chapter two. This is because the title captures the whole purpose of the chapter.

According to Agostino as cited in Tejumaiye (2003), there are certain questions a researcher must bear in mind when conducting a literature review. These questions are:

- What type of research has been done in that particular area of study in the past?
- What has been found or revealed in previous studies?
- What suggestions have previous researchers provided for future studies?
- What are the areas that have not been investigated in the field of study?
- What research methods were used in previous studies?

- How can your proposed study add to already existing knowledge in the chosen field of study?

This chapter has to do with reviewing all existing and relevant works that have been done by other scholars in that particular field of study and it entails a detailed critique of such works, indicating their strengths and weaknesses. The literature review is usually written as summaries indicating the sources i.e. the names of the authors, titles of books/journals, titles of articles, publishers, year of publication, page number etc. (Soyombo, 1996). According to Olayinka and Owumi (2006:61), the literature review serves the following purposes:

- It provides a conceptual framework for the research
- It provides an integrated overview or summary of the field of study
- It helps to establish the reason why the research has to be carried out
- It may help to shed more light on the research problem
- It helps to demonstrate the researcher's familiarity with the area under consideration (theory and/or methods).

Most times, researchers present this chapter in three parts and they are as follows:

- Conceptual review/clarification
- Theoretical review/framework
- Empirical review/findings

In this chapter, the researcher should clearly define and give operational definitions to the major concepts used in the research. The researcher does this by reviewing existing works where such concepts have been used especially as it relates to the study being carried out. It is also very important that the researcher locates his study within one or more of the theories that he/she is familiar with. Locating the study within a theory would enable the researcher link his/her study to earlier theories or models in terms of explanations or interpretations which have been offered by previous studies (Soyombo, 1996). On a general note, this chapter must capture and summarize most of, if not all of the work already done in the area of the study being carried out.

### 3.2.4 Chapter Three: Method of Study

Just like the preceding chapters, this chapter can also be presented using different titles and they include:

- Research methodology
- Method of study
- Research design
- Methodology
- Method
- Procedure of study

Any of the aforementioned titles can be used but the most appropriate is 'method of study'. This chapter of the research work provides answers to the questions of whom/what is being studied (i.e. the sample population)? What research methodology will be used? Why will that method be used? How will the method be employed or used? When will the method be used (the period of

study)? etc. in this chapter, the student-researcher is expected to provide information on how the research is going to be carried out, how the respondents or sample size will be selected, the research instruments that will be used, the measurement procedure, the research design that will be used, the data analysis procedure etc.

This section of your research project is very important because at this stage if you get the methodology wrong, the results you will get from the research will be wrong or you could even get stuck in between and the entire research work will be a failure. The designs and methods of study available to you as a communication researcher include the following:

- Content analysis
- Survey research method
- Historical study
- Experimentation method
- Field studies
- Case study
- In-depth interview
- Focus group discussions etc.

Chapter three of a research project is further divided in sections which include identification and justification of research design/method, research population, sampling procedure (i.e. sampling unit, sampling size, sampling technique), data collection instrument, data collection procedure and data analysis procedure.

Having highlighted the types of research methods/designs that are available to you as a student-researcher, let's move on to understanding what a research population is all about. The **research population** refers to the group of elements or the population from which the researcher will draw his/her samples. For instance, a research population could be all Nigerian university students and the researcher could decide to draw out a sample of students who attend private universities.It is important to note that the samples that are drawn from the research population must be representative of that population. A sample that is not representative of the population regardless of its size is inadequate because the results cannot be generalized (Tejumaiye, 2003). When using the survey method, the members of the sample population are referred to as 'respondents' while for the experimentation method, they are referred to as 'subjects'.

The **sampling procedure** has to do with the process of selecting a sample out of the total population to be researched on. There are several sampling techniques that are available to a student-researcher such as simple random sampling, systematic sampling, stratified sampling, multistage cluster sampling, purposive sampling, quota sampling, convenience sampling etc. Whatever sampling technique you decide to use must be stated clearly under the heading: **sampling procedure**.

The **data collection instrument** or **instrumentation** has to do with the process by which data are to be obtained or gathered. The instruments used for data collection available to a student-researcher include:

- Questionnaire for survey method
- Coding sheet for content analysis

- Telephone interview
- In-depth interview

**Data collection procedure/Administration of research instrument**: Because we are talking about a research proposal, under this heading the researcher has to clearly state how the research instrument will be administered and how the data will be collected or gathered. In the case of using the questionnaire instrument for instance, the student-researcher has to indicate whether he/she would personally administer the research instrument, employ research assistants to do the work, state clearly whether or not he/she would read the questions out to the respondents or just distribute it etc. All of these have to be clearly stated in this section.

After the administration of research instrument, the next step we are going to talk about is the **data analysis procedure**. Finally, the student-researcher has to indicate how the data gathered will be analyzed using any of the methods of analysis available.Some researchers especially beginners (undergraduates) analyze the data they have gathered using tables, percentage, measures of dispersion (range, variance, standard deviation etc), measures of central tendency (mean, median, mode) etc while researchers at the more advanced stage of their studies (Masters, Ph.D.) make use of statistical tests such as Chi-square, analysis of variance (ANOVA), regression analysis etc.

In summary, chapter three is all about providing a blueprint of how you are going to carry out the research. However, the procedure described above may not apply to all kinds of research especially historical and legal research.

### 3.2.5 Bibliography/References

It is a norm that at the end of each chapter in a research project a reference page is presented and at the end of the entire research project, a bibliography is also presented. The reference page at the end of a chapter contains a list of all the works used in that particular chapter indicating the name of the authors, the title of the books/journals/articles used, dates, name of publisher etc. The bibliography on the other hand is a list and combination of all the works used in the research project arranged in alphabetical order. The bibliography is usually arranged in this format: books, journal articles, magazines, newspapers, online publications unpublished works (Theses, dissertations) etc. It is very important that you include your references and bibliography in your research project so as to avoid plagiarism because it is believed that there is nothing new that you would ever write in your research project that has not been written before.

(More on this in Module 3)

## 4.0 CONCLUSION

The research proposal is a very important phase in research project writing. A good research proposal is the foundation of a research project, hence the need for it to be handled with care and taken seriously. A student-researcher who fails at the research proposal writing stage will not be able to handle writing the research project as a whole.

## 5.0 SUMMARY

In this unit, you have learnt that:

- A research proposal is an outline/blueprint prepared by a research student stating the study/ research that is to be carried out and how it is to be carried out.
- A research proposal contains three chapters; chapter one is titled 'Introduction', chapter two is titled 'Literature review and theoretical framework' and chapter three is titled 'method of study'.
- It also includes a bibliography and each chapter is accompanied with a reference page.

## 6.0 TUTOR-MARKED ASSIGNMENT

Formulate a researchable topic in journalism and write a proposal following all the guidelines stated in this unit. The research proposal should be between 10-15 pages double line spacing.

## 7.0 REFERENCES/FURTHER READINGS


Folasade, A.O. (2011). *Radio news listenership among Redeemer's University and Babcock University students* (Unpublished undergraduate project).Redeemer's University, Mowe, Ogun State.

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## UNIT 2: DATA ANALYSIS IN COMMUNICATION RESEARCH

**CONTENTS**



### 1.0 Introduction

This unit is going to give you an understanding of what to do once you have gathered your data. Data sets in themselves convey little or no meaning to researchers hence the need to make meaningful meanings out of them. Thus, this unit will introduce you to certain tools that you can use to make meanings out of the data you have collected or gathered.

### 2.0 Objectives

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

- the meaning of data;
- the types of data;
- the different levels of measurement;

- types of data analysis;
- the major descriptive and inferential statistical tools available to a researcher and how toapply them; and
- the reasons for conducting a post analysis evaluation

## 3.0 Main Content

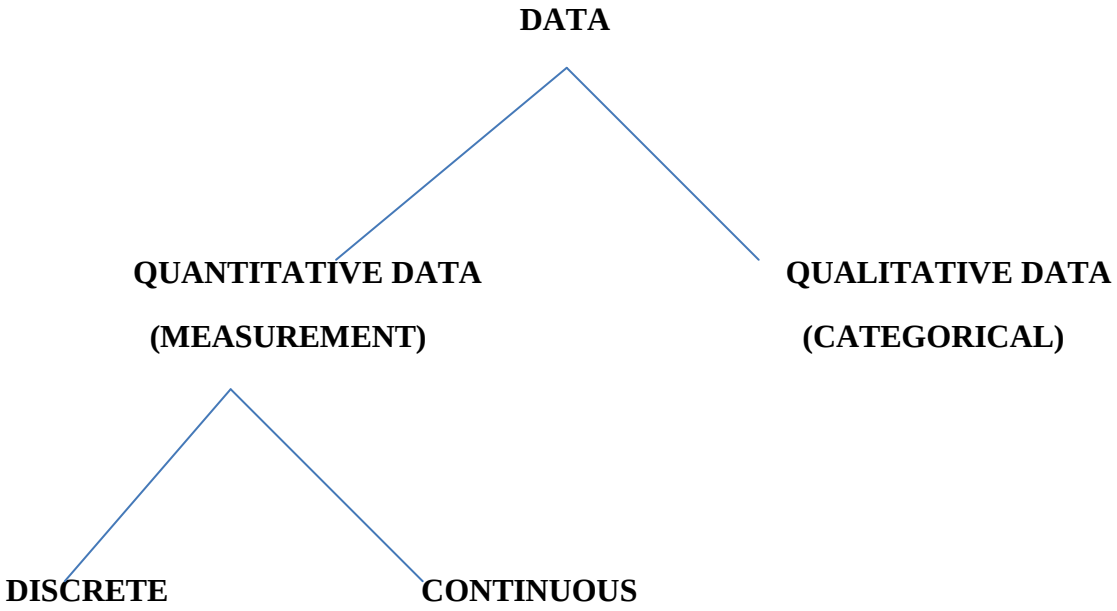
### 3.1 Meaning of Data

There are myriads definition of what data is; according to Ogundipe, G.A.T., Lucas, E.O. &Sanni, A.I. (2006:95), 'data are the symbols, numbers and or alphabetical characters used to describe one or more attributes such as age, sex, volume, growth rates, temperature etc. of an entity'. Data has to do with the collection of facts, figures, alphabets and statistics together for the purpose of analysis and drawing conclusions.

Most often, the terms data and information are used interchangeably to mean the same thing but they have distinct and different meanings. Data refers to the raw material, raw facts and figures that have been gathered during the process of data collection. However, once the data is processed and analyzed, it becomes information; hence, information refers to data that has been analyzed and processed. The plural of the word 'data' is 'datum'.

### 3.2 Types of Data

There are two types of data and they include quantitative (measurement) and qualitative (categorical) data.



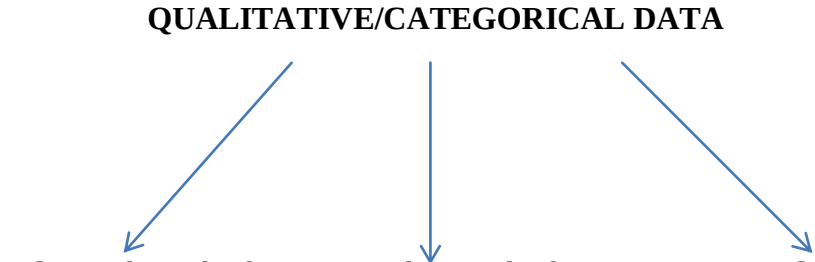

**Qualitative/Categorical Data**

Qualitative data is a form of data that is not expressed in numerical form but by means of a natural expression or language i.e. expressions or words that we are familiar with and use on a daily basis. Qualitative data is also known as categorical data and for this kind of data, objects

are usually divided into categories based on some qualitative traits. It is the data that results from qualitative research. Examples of qualitative data include:

- Color (e.g. brown, black, white etc.)
- Marital status (Married/Divorced/Single/Separated)
- Gender (Male/Female)
- Religion (Christian/Muslim/African Traditional Religion etc.)

Qualitative/categorical data are further divided into nominal and ordinal categories. See the diagram below:




(Unordered categories e.g. color, race) (Sex: male/female) (Ordered categories e.g. grade: $1^{st}$ class, $2^{nd}$ class upper, $3^{rd}$classetc)

However, these categories may have a structure to them. When the categories do not follow a natural ordering process, they are referred to as 'nominal data'. Examplesof this kind of data include color (brown, black, green); marital status (single, married, engaged, divorced, separated) etc.

On the other hand, if the categories are ordered, they are called ordinal data. Examples include: grade ($1^{st}$ class, $2^{nd}$ class upper/lower, $3^{rd}$ class); opinions (strongly agree, agree, can't say, disagree, strongly disagree) etc.

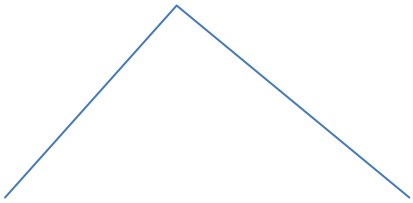
Binary data refers to categorical data in which there are only two variables. For example:

- Sex (Male/Female)
- HIV status (Positive/Negative)

**Quantitative/Measurement Data**

Quantitative or measurement data as the name connotes is the data that is not expressed in natural language but by numeric means. Here, the objects being studied are measured based on some quantitative traits. It is the data that results from quantitative research. Quantitative data could be discrete or continuous; discrete data can be counted and it takes only certain numbers (like whole numbers e.g. 5, 7, 10 etc.) while continuous data are counted, measuredand can be any value within a range of numbers (25.5, 3.265 etc.).

**QUANTITATIVE/MEASUREMENT DATA**



**DISCRETE DATA** **CONTINUOUS DATA**

### 3.3 Sources of Data

Data can be gathered through two sources: primary and secondary sources.

- **Primary Sources**: Primary sources of data refer to data that is collected by the researcher directly in its raw state i.e. data that has not been processed yet. It includes data collected through questionnaires, interviews etc. Primary sources of data include direct field measurement, questionnaires, interviewing, focus group discussions, participant observation, content analysis etc. The advantages of primary sources of data are:
  i. It allows access to direct information from participants or respondents.
  ii. It helps and gives opportunity to clarify ambiguous information given by respondents.
  iii. The richness of the data collected through primary sources makes it very valuable.

  On the other hand, the disadvantages include the following:

  i. This kind of data is more expensive to collect as compared to secondary data.
  ii. Gathering this kind of data takes a longer period of time
  iii. An element of bias or manipulation may be present in the data.
- **Secondary Sources**: This refers to the data that are not directly collected or gathered by the researcher. This kind of data has been processed and is usually collected and gathered by another group or organization. It is the kind of data that is gathered during literature review and these secondary sources of data include: annual reports of companies, registers, census, books, journals, surveys, maps, photographs etc. Advantages of secondary sources of data include:
  i. It is less expensive to gather.
  ii. Gathering this kind of data requires less time.

  Its disadvantages also include:

  i. The data may be outdated or stale.
  ii. The data may not be the same one needed by the student-researcher.

### 3.4 Measurement of Data

As explained earlier in Module 2 Unit 2, four levels of measurement exist in communication research. These levels of measurement are nominal, ordinal, interval and ratio. In addition, the

elements that are measured in communication research are variables, concepts and occasionally constructs.

**SELF-ASSESSMENT EXERCISE 1**

A. Differentiate between the following:
   i. Quantitative and qualitative data
   ii. Discrete and continuous data
   iii. Primary and secondary sources of data
B. Give four examples each of quantitative and qualitative data
C. What are the four levels of measurement in communication research?

## 3.5 MEANING OF DATA ANALYSIS

Data in itself has no meaning until it is analyzed and scientifically processed, hence, the process of making meanings and sense out of the data gathered is known as data analysis. The purpose of data analysis is so as to ensure that the collected data are analyzed, processed and summarized in such a way that they give answers to the research questions or hypotheses formulated for the research project (Ajala, 1996:38). The process of data analysis begins with sorting out the data or observations gathered, the data is then coded (i.e. it is transformed into numerical symbols that can be counted) and the coded data is tabulated manually or entered into the computer for analysis.

**N.B.:**The reason for coding data is to make it very easy to analyze. We will talk about this while treating levels of measurement. Please read up data measurement in Module 2, Unit 3.

## 3.6 TYPES OF DATA ANALYSIS

There are two broad types of data analyses and they are descriptive and inferential data analyses. Descriptive analysis has to do with summarizing the main features of the data gathered as well as offering physical explanations whenever possible. Descriptive analysis of data allows the researcher to take random data and organize them into some type of ordered manner that can be easily understood. The tools which are used in descriptive data analysis are called descriptive statistics. Descriptive statistical tools include the measures of central tendency (mean, median,and mode), graphs (bar charts, pie charts, histograms, scatter plots etc.), measures of dispersion (e.g. standard deviations, range, variance) etc. Most importantly, descriptive data analysis is used to process and analyze data when the researcher wants to answer the research questions.

On the other hand, inferential statistics is used when the researcher wants to do more than just describe the samples. Inferential data analysis is used when the student-researcher wants to make assertions or inferences about the larger population from which the sample population was selected (Tejumaiye, 2003:215).According to Onabajo (2011:151), inferential data analysis is "the process of using data collected from samples to make inferences about a larger population or populations". The tools which are used in inferential data analysis are called inferential statistical tools. These tools include chi-square, the student t-test, analysis of variance (ANOVA), regression analysis, contingency table analysis etc. This form of data analysis is used for testing hypotheses and making inferential decisions in the research process.

## 3.7 MAJOR DESCRIPTIVE STATISTICAL TOOLS AND HOW TO APPLY THEM

After data has been organized for analysis, there are certain descriptive statistical tools that can be used for the appropriate analysis of such data.According to Tejumaiye (2003:1950), there are generally two methods used in descriptive statistics and they include: **data distribution** and **summary statistics**.

***Data Distribution***

Data is usually gathered and collected in large sets and numbers, hence, the need to analyze them and organize them in such a way that they would be easily understood.One of the descriptive statistical tools used under the data distribution method is**tabulation**. For example: Number of students that read newspapers in four selected Nigerian universities.

**Table 1**

| **Universities** | **No of Students** |
|---|---|
| University of Lagos | 160 |
| Redeemer's University | 80 |
| University of Ilorin | 120 |
| Covenant University | 75 |
| **Total** | **435** |

Data that are too complex in nature can also be tabulated. See the example below:

**Table 2: Attention paid to radio news programme by students in four selected Nigerian universities.**

| Universities | Frequency of Response to Items | | | | Total |
|---|---|---|---|---|---|
| | A Lot of Attention | Some Attention | Little Attention | No Attention | |
| University of Lagos | 40 | 36 | 15 | 7 | 98 |
| Redeemer's University | 36 | 26 | 27 | 6 | 95 |
| University of Ilorin | 39 | 28 | 20 | 9 | 96 |
| Covenant University | 31 | 26 | 25 | 4 | 86 |
| **Total** | **146** | **116** | **87** | **26** | **375** |

Another way to represent data using the tabulation format is to compare percentages; see the example given below.

**Table 3: Age Distribution of Respondents**

| Age Range | Number of Respondents | % of Total |
|---|---|---|
| **15-19 years** | 91 | 51% |
| **20-24 years** | 77 | 44% |
| **25-29 years** | 8 | 5% |
| **Total** | **176** | **100%** |

In a situation where the research requires many respondents giving several possible responses to many items, the researcher can also present the data in an easy-to-understand way by making use of cross breaks as well as frequencies and percentages. Consider table 4 below.

**Table 4: Attitude of Redeemer's University and University of Lagos Students towards Nigerian Home Videos**

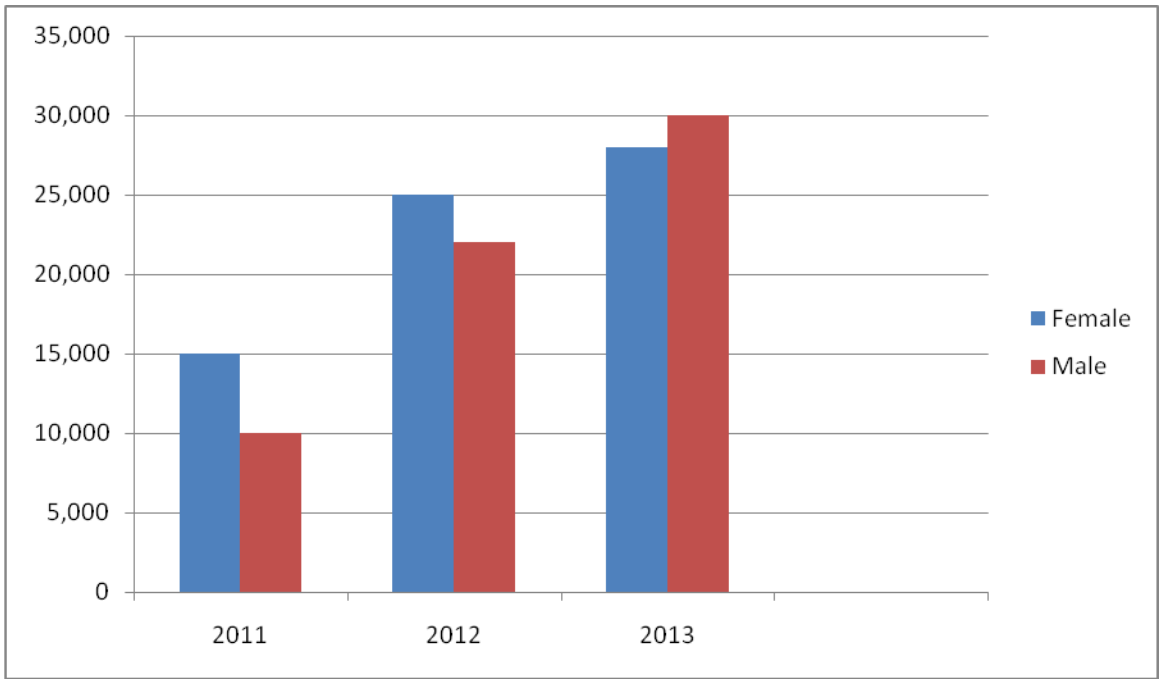
| Universities | Direction of Attitudes | | | Total |
|---|---|---|---|---|
| | Positive | Negative | Neutral | |
| **Redeemer's University** | 35 (41.17%) | 37 (46.25%) | 13 (15.29%) | 85 (100%) |
| **University of Lagos** | 33 (41.25)) | 37 (46.25%) | 13 (12.5%) | 80 (100%) |

Data can also be represented using **bar charts** which can be drawn either horizontally or vertically. Most times, bar charts are used to make comparisons between two or more items. Bar charts/graphs are discrete bars that are used to represent different categories of data. The height of the bar (i.e. how tall or short it is) is equal to the quantity within that category of data. Let us consider the example given below.

A survey/census was conducted to determine the number of male and female students that study Mass Communication in Nigeria from 2011 – 2013 and it revealed that in 2011, there were 15,000 females and 10,000 males; in 2012, there were 25,000 females and 22,000 males and in 2013, there were 28,000 females and 30,000 males.

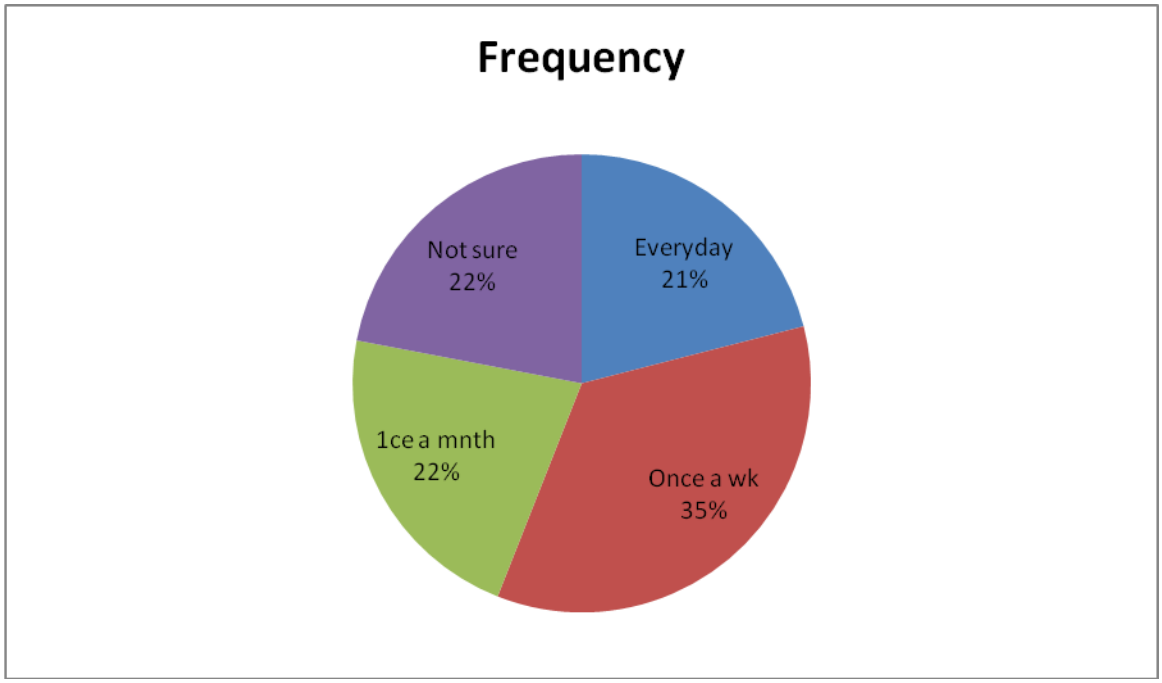
The above data is represented in the bar chart below:

Number of male and female students studying Mass Communication in Nigeria from 2011-2013



Also, a **pie chart** (circle graph, round graph or pie graph) is also used to present data. It is called a pie chart because it is cut into slices (just like a pie) of varying sizes that add up to 100%. A pie chart usually shows the differences in frequencies and percentages. See the example given below.

**Figure: Chart showing how often students watch Nigerian home videos**




***Summary Statistics***

Summary statistics is aimed at breaking down data such that the data is more manageable. The statistical tools used to analyze descriptive data using the summary statistics method can be divided into two broad categories: **measures of central tendency** and **measures of dispersion**.

Measures of Central Tendency

Measures of central tendency have to do with presenting your data in the summarized form of an average ad they tell what the data looks like on the average.They determine the typical score of a distribution. The three common measures or quantities for measuring average or central tendencies or location are the *mean, median, mode.*

*The Mean*

The mean is the most widely used in research and the most important measure of central tendency in summary statistics. Mathematically speaking, it is the sum of all scores divided by N, the total number of scores (Wimmer & Dominick, 2000: 239). In a layman's term, the mean is the average of the entire data distribution. The formula for calculating the mean is: $X = \Sigma x \div N$. Where $\Sigma$ means the sum; N is the total number of scores in the distribution and x is any scores in

the series of distribution and X is the mean.Let's consider the example given in Onabajo (2011:147):

If we interview a group of people numbering 10 and ask each of them to tell their age, the mean age of the group will be the sum total of their ages divide by the number of the persons interviewed (10 in this case). For example, if their ages are 18, 20, 22, 24,26, 28, 30, 32, 34 and 36 respectively, the mean will be the total number of their ages divided by the number of persons interviewed. In other words, the total number of ages will be 270, hence, the mean will be 270 ÷ 10 = 27.

*The Median*

The media is the middle value or midpoint of any distribution. It is important to note that when determining the median of any distribution, the values in that distribution must be arranged in order from the smallest to the largest value. When the distribution has an odd number of values, the median is usually the middle value. For example, the values in a distribution are 4, 10, 3, 7, and 2. To get the middle value, the distribution has to be arranged in an ordered manner from the smallest value to the largest value. The distribution becomes 2. 3, **4**, 7 and 10, hence, the median is 4 because it is the middle value. However, when the distribution has an even number of values, the median is the sum of the two values in the middle divided by two. For example, the distribution could be 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10. The two middle values here are 5 and 6, hence the median would be 5 + 6 = 11; 11 ÷ 2 = 5.5. Therefore, the median is 5.5.

*Mode*

The mode is the value that occurs most frequently than other values in a distribution. The mode most times does not require any form of calculation. In some distributions, just one value will occur more frequently than others while in other distributions, two values can occur more frequently than others. A distribution that has just one value occurring more frequently than others is called a **unimodal** distribution while a distribution that has two values occurring more often than other values is called a **bimodal** distribution. For example: 4, 2, 3, 10, 4, 6, 4, 5, 4, 11, 4, 2, 3, 7, 4 – in this distribution, the mode is **4** because it is the value with the highest frequency.

Measures of Dispersion

It is also known as the measure of variation. They are particularly useful when comparing the variations between values in different distributions. Measures of dispersion or variation are usually used to indicate how values are spread or scattered in a distribution of values. The three measures of dispersion or variation are the **range**, the **variance** and the **standard deviation**.

*The Range*

This is the simplest measure of them all and it is the difference between the highest and lowest values in a set of distribution.Mathematically, the formula used for calculating or determining the range is:

$R = X_{h1} – X_{h0}$; where $X_{h1}$ stands for the highest value and $X_{h0}$ stands for the lowest value.

Let's consider the example used in Tejumaiye (2003:209): 4, 10, 14, 20, 26, 40, 60, 70, 75, 90, 100Calculating the range, you have $X_{h1} - X_{h0} = 100 - 4 = 96$. Hence, the range is 96.

*The Variance*

The variance is used to indicate the degree to which values or scores deviate from or at a variance with the mean (Wimmer & Dominick, 2000:241). The first step in calculating the variance is to calculate the mean, then subtract the mean from each value or score in the distribution, the values gotten from the subtraction (known as *deviation scores*) are then squared and the squares are summed up together and divided by N where N is the total number of scores in the distribution. The mathematical formula is written thus: $S^2 = \frac{\Sigma (x_i - X)^2}{N}$

Let's consider the following example as cited in Tejumaiye (2003:212): Assuming the values are – 2, 4, 6, 8, 10.

The formula is $S2 = \frac{\Sigma (x_i - X)^2}{N}$ The mean will be the sum of all the values divided by 5 i.e. 30 ÷ 5 = 6.

To calculate the variance in an easy to understand manner, we will present the data in a tabular form:

| **x** | **x – X** | **$(x_i - X)^2$** |
|---|---|---|
| 2 | 2 – 6 (-4) | 16 |
| 4 | 4 – 6 (-2) | 4 |
| 6 | 6 – 6 (0) | 0 |
| 8 | 8 – 6 (2) | 4 |
| 10 | 10 – 6 (4) | 16 |

$S^2 = 40 \div 5 = 8$

*Standard Deviation*

The standard deviation has already been solved to an extent by the variance. This is because it is the positive square root of the variance. The standard deviation represents a given distance of the scores from the mean of the given distribution. To get the standard deviation, solve the variance with the formula given for it and whatever value you get, square it. For instance, variance in the example given above is 8, hence, the standard deviation will be the square root of 8 = 2.83.

### 3.8. Inferential Statistical Tools and How to Apply Them

The term *inferential statistics* refers to the "process of using data collected from samples to make inferences about a larger population(s)" (Onabajo, 2011:151). In other words, inferential statistics are statistical tools that are used to draw conclusions about the relationship between variables in a sample population.Inferential statistics is used and expressed through hypothesis testing.

## Hypothesis Testing

Onabajo (2011:152) defines hypothesis as 'a proposition which the researcher wants to verify'. In using hypothesis testing, you specify the null and alternative hypothesis.

### *Null Hypothesis*

- It is the hypothesis of no change/difference; no effect;
- It is denoted by $\mathbf{H_0}$
- It is always stated in this form:
  $H_0$: Babcock University is equal to University of Ibadan.
  This means that there is no difference between the two schools.

### *Alternative Hypothesis*

- This is hypothesis of change/difference.
- It is denoted by $\mathbf{H_1}$
- It is the researcher who determines the $H_1$
- It could be in the form of:
  a. $H_1$: Babcock University is > University of Ibadan
  b. $H_1$: BU < UI
  c. **BU ≠ UI**
- All these statements must be taken one at a time; the researcher must determine whether these "assumptions"/statements are true or not.

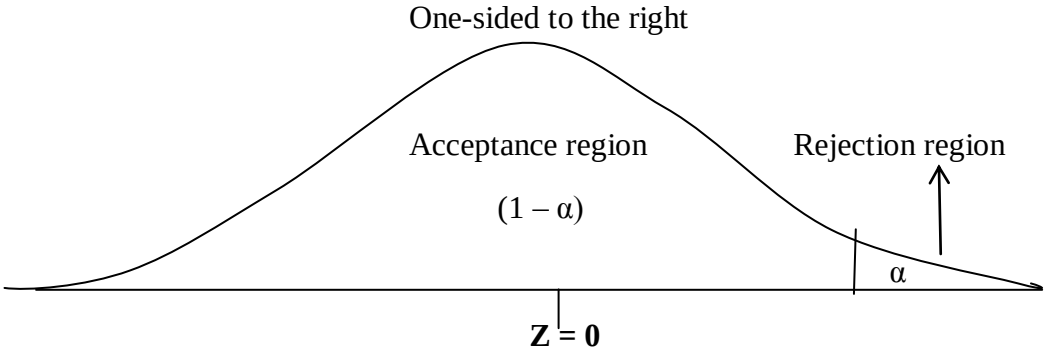
The null hypothesis is usually not tested because there is no difference. The different tests used in hypothesis testing include the following:

### One-tailed Test

This is where $H_1$ is well specified.

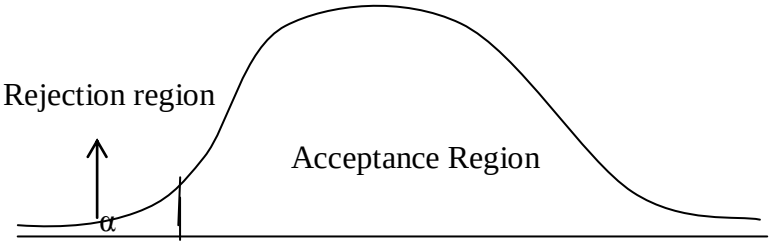
$H_0$: Maclean = Close Up

$H_1$: Maclean > Close Up




Or

a. $H_0$: Maclean = Close up
b. $H_1$: Maclean < Close up

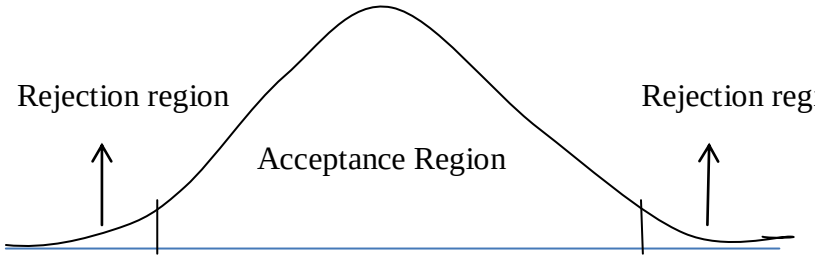



*Alpha* should not be too large. A higher level of significance affects the number of casualties. IF CALCULATED IS LESS THAN TABULATED – IT FALLS IN THE **ACCEPTANCE** REGION: **ACCEPT.**

IF CALCULATED IS GREATER THAN TABULATED – IT FALLS IN THE **REJECTION** REGION: **REJECT.**

**Two-tailed Test**

- It has two tails.
- It is the one where the $H_1$ (alternative hypothesis) is not well specified.
  a. $H_0$: Mac = Close Up
  b. $H_1$: Mac ≠ Close Up




**N.B.** Pls. note that in social sciences, the 'alpha' is 5% and 0.1% in other areas.

**Hypothesis Errors**

***Type I and Type II Errors***

| DECISION | $H_0$ True | $H_0$ False |
|---|---|---|
| Reject $H_0$ | Type I error  | **Correct decision** |
| Accept $H_0$ | **Correct decision** | Type II error  |

**Type I Error:** Although it is unlikely that a test statistic would fall in the critical region when $H_0$ is true. In this case we reject $H_0$ and make an error in doing so. This is called TYPE I ERROR (i.e. rejecting $H_0$ when it is true).

Example – rejecting the truth that 'normally men commit more crime than women'. The truth is that men commit more crime than women.

**Type II Error:** This occurs when one fails to reject $H_0$ when it is false. A Type II error will occur if a test statistics does not fall in the critical region, when $H_0$ is in fact false.

**Critical region**: This is a subset of the sample the rejection of the null hypothesis under consideration.

**Significance level:** It is the probability of taking a wrong decision (i.e. probability of making an error).

**3.9 General Procedure for Test of Hypothesis**

a. Formulate the null and alternative hypothesis.
   - This is the first thing to be done after the data has been collected. $H_0$ and $H_1$ must be specified/set. $H_1$ is picked from the objectives of the study. $H_1$ is the research hypothesis.
b. Determine the appropriate test statistic and compute its value.
   - Determine whether it is Z or t.
   - Z means it is normal.
   - When n is larger than 30, i.e. $n \geq 30$, we use Z.
   - When $n$ is small, that is, $n < 30$, we use the $t$ distribution.
c. Choose the level of significance i.e. $\alpha$.
   - Generally, 5% is used for management sciences.
d. Determine the critical region.
e. Make a statistical decision.
f. Interpret results.
   - Interpret statistical statements.
   - Explain in simple terms why $H_0$ or $H_1$ has to be accepted or rejected.

## 4.0 Conclusion

Data and its analysis are a very important component of communication research. Data that is not processed or analyzed is of no use to the researcher hence the need to analyze and check for the relationship between variables so as to make sense of the gathered data.

## 5.0 Summary

This unit has improved your understanding of the following:

- The meaning of data;
- The types of data and sources of data;
- Measurement of data;
- The meaning and types of data analysis;
- Major descriptive statistical tools and how to apply them;
- Inferential statistical tools and how to apply them; and
- The general procedure for hypothesis testing.

## 6.0 Tutor-Marked Assignment

- List the measures of central tendency ad dispersion.
- A female psychologist claims that female journalists have a higher intelligence quotient than other women in general who have an average intelligence quotient of 64. To study this claim, she obtained a random sample of 40 female journalists and their intelligence quotients were recorded; and their mean is given as 65.6. The standard deviation is 3.3. Using this result, test the claim at the 5% level of significance.

## 7.0 References/Further Reading


Ajala, V.O. (1996). *Scholarly writing guide for researchers*. Ibadan: MayBest Publishers.

Ogundipe, G.A.T., Lucas, E.O. &Sanni, A.I. (2006).Systematic collection of data. In A.I. Olayinka, V.O. Taiwo, A. Raji-Oyelade& I.P. Farai (Eds.), *Methodology of basic and applied research* (pp. 95 - 112). Ibadan: Dabfol Printers.

Onabajo, O. (2011). *Foundations of communications research*.Festac, Lagos: Sibon Books Limited.

Tejumaiye, A. (2003). Mass communication research: An introduction. Ibadan: Sceptre Prints Limited.

Wimmer, R. D. and Dominick J. R. (2000). Mass media research: An introduction. Belmont, California: Wadsworth Publishing Company.

**UNIT 3 DOCUMENTATION**

**CONTENTS**



## 1.0 INTRODUCTION

One of the highlighting factors that make a research project exceptional is the proper documentation of its references and bibliography. The documentation of references and bibliography indicates that the student-researcher has done a good job of reading wide and getting information from every available literature such as books, journals, articles etc.; this in turn proves that the research work is authentic and has gone through the rigor of scientific research. Every work that has been consulted during the process of carrying out the research

must be documented. This part of research writing is very important because if haphazardly done, it could lead to the student-researcher committing the crime labeled 'plagiarism' which is a crime that is taken seriously by academics.

## 2.0 OBJECTIVES

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

- Explain the meaning of documentation;
- Understand and explain the APA referencing style and its different parts;
- Compile a list of bibliography and references using the APA style referencing; and
- Write the preliminary pages of an undergraduate research project.

## 3.0 MAIN CONTENT

### 3.1 MEANING OF DOCUMENTATION

Tejumaiye (2003:239) describes documentation as the generally accepted way(s) of giving credit or recognition to the scholars whose works you have consulted in the process of writing your research project..The works consulted or used could include books, journal articles, magazines, newspapers, tables, charts, unpublished thesis/dissertation/research project, websites, academic working papers, advanced textbooks or monographs, encyclopedias, handbooks among others. .Soyombo (1996:362) defined documentation 'as the acknowledgment and identification of materials such as data, quotations and opinions from various sources which have in one way or the other contributed to the quality and content of the literature review'. It is very important to note that documentation does not only apply to the literature review but to other chapters in your research project and other forms of academic writings such as term papers, articles, conference papers among others..Documenting your sources or the works you consulted gives credit to your research project, makes it credible and authentic.

Documentation takes three different forms: citations, references and bibliographies. For instance, in the paragraph above, the writer cited another scholar by including the name of the author and the year of publication as well as the page i.e. Tejumaiye (2003:239); this form of documentation is called a **'citation'**. Citations refer to the short information given about the author, the year of publication as well as the page and they are often found within the text of your research work.

**References** on the other hand contain a list of all the works consulted and arranged in alphabetical order. Every chapter in your research project must be accompanied by a reference page stating all the works that you have consulted to build that chapter. References appear at the end of an article, book, or chapter. In the process of compiling your references, you must ensure that all the works cited in your project are included in your reference page.

**Bibliographies** however refers to the list containing 'all the relevant items you consulted for your project including those not directly referred to in the text' (Saunders, 2009 as cited in Oluyombo, 2011:139).It includes both cited references (i.e. those works from which ideas or materials were used) and un-cited references

(i.e. those works that were useful but which the writer did not quote or use the data in it directly). A bibliography lists all the works you have found useful and relevant in the process of writing your research project.

### 3.2 THE APA STYLE

The APA referencing style is the most simplest and popular style used by academic researchers and scholars in the social sciences when including reference citations in a research project or in an academic work. Other referencing styles include the Harvard and the Chicago referencing styles but for the purpose of this unit, we will be discussing the APA referencing style at length because that is the referencing style you would use for your research project.

The acronym APA stands for the American Psychological Association (APA); it is the association responsible for the establishment of the rules and conventions that guide the documentation of sources used in a research work or paper.The APA referencing style requires you to create a list of all the works you have used in your research project, arrange them in alphabetical order of the author(s) surnames, and then chronologically (earliest publication date first) for each author especially in a situation where more than one work by a particular author is cited. The author(s) surname is placed first, followed by initials or first name, and then the year of publication is given. See examples 1 and 2 below.

***Example 1:*** According to Tejumaiye (2003), there are generally two types of variables and they are the independent and dependent variable.

***Example 2***: The literature review is usually written as summaries indicating the sources i.e. the names of the authors, titles of books/journals, titles of articles, publishers, year of publication, page number etc. (Olatunde, 1996:38).

Another peculiarity of the APA referencing style is that the title of the work and the place of publishing are usually left for the reference/bibliography page. The APA style for the reference list/bibliography consists of the following elements: the author(s) surname and initials, the year of publication, the title of the work, the place of publishing and the name of the publisher.

For example: Tejumaiye, A. (2003). Mass communication research: An introduction. Ibadan: Sceptre Prints Limited.

From the example given above, 'Tejumaiye, A.' represents the surname and initials of the author, '2003' stands for the year the book was published, 'Mass communication research: An introduction' is the title of the book, 'Ibadan' is the place/location where the book was published and 'Sceptre Prints Limited' is the name of the publisher.

The documentation of sources using the APA referencing style is very important because it clears doubts concerning the authenticity of the research project, enhances the reader(s) confidence in the researcher's work and most importantly, it provides all the necessary information about the sources especially for readers who would like read more about the issue discussed in the research project.

## 3.3 ASPECTS OF THE APA STYLE

Here we are going to be examining the important aspects of the APA referencing style

### 3.2.1 QUOTATION OF SOURCES

On a general note, the APA style has certain rules and guidelines that will help guide you when quoting sources. For instance, the APA manual provides that when quoting a source (it could be another author's work or even the researcher's previously published work) verbatim or word for word, the material used should be reproduced and quoted word for word. If the quotation is not up to 40 words or three lines, it should be enclosed with double quotation marks within the body of the research work.

***Example 1:*** "Citations are a crucial part of academic writing and appear at points in your text where reference is made to others' work, called in-text referencing" (Onabajo, 2011:174).

> On the other hand, if the quotation is more than three lines or 40 words, the researcher should display the quotation (without quotation marks) in a block of typewritten lines that is standing alone from the rest of the text. The block should be started on a new line and the researcher should indent the block 1.3cm or five spaces from the left margin. See example two below as cited in Tejumaiye (2003:137)

***Example 2:*** Charles R. Wright (1975) defined content analysis thus:

> A research technique for the systematic classification and description of communication content according to certain usually predetermined categories. It may involve quantitative or qualitative analysis or both. Technical objectivity requires that the categories of classification and analysis be clearly and operationally defined so that other researchers can follow them reliably. For example, analysis of the social class membership of television character requires clear specification of the criteria by which class is identified and classified.

Also, when quoting from a secondary source (i.e. a source that quotes another author), the citation can be written in any of the following ways:

As Hall (1977) asserts "culture also defines boundaries of different groups" (as cited in Samovar & Porter, 1997:14).

It has been said that "culture also defines boundaries of different groups" (Hall, 1977 as cited in Samovar & Porter, 1997:14).

According to Hall (1977) as cited in Samovar & Porter (1997:14), "culture also defines boundaries of different groups".

It is very important to note that direct quotation of sources must be accurate. The wording, spelling, and interior punctuation of the original source must be the same with the one quoted even if the source is incorrect. Peradventure any incorrect spelling, punctuation or grammar in the original source might be confusing to the reader, it is imperative to insert the word SIC (a Latin word that means 'thus was it written') in italics and put it in a bracket immediately after the error in the quotation.

### 3.2.3 BIBLIOGRAPHY/REFERENCES LIST ENTRIES

At this point, it is important to note that the APA referencing style states that the reference page should always be double-spaced and the first line of each reference should be flush-left with the margin of the page. Each subsequent line of your reference should be indented too.As earlierstated in this unit, the APA referencing format has to do with creating and providing a reference list and bibliography in your research project. Hence, we will be discussing how different works can be entered into the bibliography and reference list as well as the format that is applicable to each work. We will be starting with the book.

### 3.2.4 BOOK CITATION

The elements of citation in a book include the author(s) surname and initials, the year of publication, the title of the book, the place where the book was published and the name of the publisher.

***Examples of different boo citations***

- ***Books with one author***

Tejumaiye, A. (2003). *Mass communication research: An introduction*. Ibadan: Sceptre Prints Limited.

**Name ofAuthor***:* Tejumaiye, A.
**Year of publication***:* 2003
**Title of book***: Mass communication research: An introduction*
**Publication information***:* Ibadan: Sceptre Prints Limited

- ***Books with more than one author***

Anaeto, S.G., Onabajo, O.S., and Osifeso, J.B. (2008).*Models and theories of communication*. Maryland, USA: African Renaissance Books Incorporated.

**Name of authors:** Anaeto, S.G., Onabajo, O.S., and Osifeso, J.B.
**Year of publication:** 2008
**Title of book:** *Models and theories of communication*
**Publication information:** Maryland, USA: African Renaissance Books Incorporated

According to the APA style, if a book has more than six authors, abbreviate the remaining authors as et al. in the first and subsequent text citations.

**N.B.** Use **&**between authors' names except when paraphrasing in text. When a work has three, four or five authors, cite all authors the first time, and in subsequent citations include only the first author followed by et al.

- ***Book Chapter in Edited Books***

The elements of citation for citing a book chapter in an edited book in the right order include: the name of the author for the book chapter, the year of publication, the title of the chapter, the name of the editors, the title of the book (in italics), the page numbers of the chapter in bracket, the place of publication and the name of the publisher. For example:

Soyombo, O. (1996). Writing a research report. In Ahonsi, B. and Soyombo, O. (Eds.), *Readings in social research methods and applications* (pp. 347-390). Ibadan: Caltop Publications (Nigeria) Limited.

**N.B.** Make sure you always include the page numbers of the chapter after the book title.

- ***Edited Books with no author***

Edited books with no author(s) should list the last name and first initials of the editor(s), followed by 'Ed(s).' in parentheses. The remainder of the reference should follow the basic structure and include the publication year, book title in italics, location and publisher. See the example below:

Duncan, G.J., & Brooks-Gunn, J. (Eds.).(1997). *Consequences of growing up poor.* New York, NY: Russell Sage Foundation.

**Editors' names**: Duncan, G.J., & Brooks-Gunn, J.

**Year of publication**: 1997

**Title of book**: *Consequences of growing up poor*

**Publication information**: New York, NY: Russell Sage Foundation

- ***Edited books with author(s)***

Edited books with one or more authors should follow the basic structure of a book reference and include the initials, last name, and 'Ed(s).' in parentheses after the book title.

Plath, S. (2000). *The unabridged journals*.(K.V. Kukil, Ed.). New York, NY: Anchor.

Adler, A. (1956). *The individual psychology of Alfred Adler: A systematic presentation of selections from his writings.* (H.L. Ansbacher and R.R. Ansbacher, Eds.). New York: Basic Books.

- ***Books with corporate authors***

Books with corporate authors consist of the following elements in the order listed: name of the author (i.e. the name of the corporation/organization), the year of publication, the title of the book, place of publication, and name of publisher. See the example given below:

Nigerian Institute of Journalism. (2001). *An introduction to journalism.* Ikeja: John West Publishers.

**N.B.** when the author and publisher are the same, use author in the publisher field. For example:

University of Waikato.(1967). *First hall of residence.* Hamilton, New Zealand: Author.

### 3.3.4 JOURNAL CITATION

A journal is a term for a scholarly publication that is published periodically either monthly or quarterly. Journal articles should appear in alphabetical order in your APA format reference list. Generally, for journal articles, the APA style dictates that the author(s) last name followed by initials comes first and the publication year goes between parentheses, followed by a period. The title of the article follows and it is in sentence-case meaning only the first word and the proper nouns in the title are capitalized. The title of the journal is run in title case and is followed by the volume number which is italicized with the title. If a DOI has been assigned to the article that you are using, you should include this after the page numbers for the article. If no DOI has been assigned and you are accessing the journal online, use the URL of the website from which you are retrieving the periodical. See examples below:

***For print journal articles with doi***

Hohepa, M., Schofield, G., and Kolt, G.S. (2006). Physical activity: What do high school students think? *Journal of Adolescent Health, 39*(3), 328-336.

doi: 10.1016/j.jadohealth.2005.12.024

**N.B.** Electronic journal articles with doi are cited using the format used above.

***For printjournal articles with nodoi***

Wadee, A.A., Kuschke, R.H., Kometz, S. and Berk, M. (2001).Personality factors, stress and immunity.*Stress & Health: Journal of the International Society for the Investigation of Stress, 17*(1), 25-40.

***For electronic journals***

Harrison, B., and Papa, R. (2005).The development of an indigenous knowledge program in a New Zealand Maori-language immersion school.*Anthropology and Education Quarterly, 36*(1), 57-72. Retrieved from ProQuest Education Journals database.

**N.B.** Undergraduates give the name of the database while researchers give the URL of the journal's homepage. E.g. retrieved from http://ucpressjournals.com/journal.asp?j=aeq

On a general note, there are a few general notes to take note of when citing journal articles using the APA style and some of them include:

- Always include the following citation elements: the surname and initials of the author(s), year of publication, article title, journal title, volume and issue of the journal as well as the page numbers.
- If no author exists for the journal article and it is not signed as anonymous, do not use anonymous as the author. Rather, use the title of the journal in place of the author.
- After a doi or URL in a citation, there is no ending punctuation.

***For newspaper articles***

Okpara, R.N. "Boko Haram strikes again in Kano".*The Guardian on Sunday*, May 6,2008, p. A7.

**SELF-ASSESSMENT EXERCISE 1**

Get two undergraduate research projects in any communication relateddiscipline and critically assess the method of documentation. Do theyconform to the APA referencing format? List the observed errors.

### 3.3.5 CITATION OF PROCEEDINGS OF MEETINGS AND SYMPOSIA

According to the APA citation style, the rules guiding the citation of proceedings of meetings and symposia include the following:

***Proceedings published in an edited book***

McKay, G. (1999). Self-determination in Aboriginal education. In L.B. Muller (Ed.), *Changing the climate: Proceedings of the 1998 Conference for Graduate Students in the Social Sciences and Humanities* (pp. 1-11). Saskatoon, Canada: University of Saskatchewan.

***Proceedings published regularly***

APA advises that proceedings published regularly should be referenced using the format for journals and in practice, annual proceedings are often published and cited as edited books.

***Proceedings of a symposium***

A symposium is a situation whereby several authors come together under the coordination and leadership of a chair to pool together their knowledge about a topic. Example of how to cite proceedings of a symposium is given below:

Krinsky-McHale, S.J., ZIgman, W.B. & Silverman, W. (2012, August). Are neuropsychiatric symptoms markers of prodromal Alzheimer's disease in adults with Down syndrome? In W.B. Zigman (Chair), *Predictors of mild cognitive impairment, dementia, and mortality in adults with Down syndrome.*Symposium conducted at the meeting of the American Psychological Association, Orlando, FL.

**N.B.** Increasingly, proceedings are being made available on CD, if that is the case with your source, just add (CD) after the title. If the proceedings are published online, substitute "Retrieved from URL" for the publisher and location.

### 3.3.6 CITATION OF UNPUBLISHED WORKS

Unpublished works refer to works or information sources that have not been officially released or published by an individual, a publishing house or organization. Examples of unpublished works include manuscripts accepted for publication but still 'in-press', data from an unpublished study, raw data etc. the citation elements in their right order are the name of author(s) of paper or manuscript, year written, title of paper or manuscript, and publication process information. The relevant format for citation of unpublished works according to the APA manual includes the following:

***Unpublished manuscripts with a university cited***

Blackwell, E., & Conrod, P.J. (2003).*A five dimensional measure of drinking motives*.Unpublished manuscript, Department of Psychology, University of British Columbia, Vancouver, Canada.

***Manuscript in progress or submitted for publication***

Adeniji, M.O. (2012). *Online propaganda and social media*. Manuscript submitted for publication (or 'manuscript in preparation).

***Unpublished thesis or dissertation***

*For print*

Adeniji, M.O. (2012). Online propaganda and social media.(Unpublished master's thesis).University of Lagos, Lagos.

*For electronic*

Linn, J.A. (2003). Active or avoidant: Two methods of resisting persuasion. (Doctoral dissertation).University of Arkansas, Fayetteville.Available from ProQuest Dissertations and Theses database. (UMI No. 31-2381)

### 3.3.7 CITATION OF INTERNET SOURCES

***Internet article***

Wiltshire, R.D. (2006, May 5). Changing thinking patterns to reduce depression. Psychology for the Future, 3, Article 0012. Retrieved March 15, 2007, from http://www.psychologyforthefuture.org/articles/art0012.html

***Newspaper article***

Parker-Pope, T. (2008, May 6). Psychiatry handbook linked to drug industry. *The New York Times.* Retrieved from http://well.blogs.nytimes.com

***Electronic books***

They are books that are found on personal websites, databases or even in audio form and it takes the format given below.

De Huff, E.W. (n.d.). *Taytay's tales: Traditional Pueblo Indian tales*. Retrieved from http://digital.library.upenn.edu/women/dehuff/taytay.html

**N.B.**The format given above is used when the work is available in digital format and it is difficult to find in print. If the work is available online or must be purchased, use 'available from' instead of 'retrieved from' and point readers to where they can find it.The abbreviation 'n.d.' means no date and it is used when a publication's date is not available.

***Online encyclopedias and dictionaries***

Very often encyclopedias and dictionaries do not provide author(s) name, hence, move the entry name to the front of the citation. See the example below.

Feminism.(n.d.).*In Encyclopedia Britannica online.*Retrieved from http://www.britannica.com/EBchecked/topic/724633/feminism

## 3.3 THE APPENDIX

According to Ajala (1996), the appendix is an important part of the reference materials and it comes after the text of the entire research project. It contains materials or works used in the research project but not included in it because they are too lengthy or they are not directly important such that they should be included in the main body of the research work. Examples of materials that fall in this category include:

- Coding sheet ad coders' instruction guide (for content analysis).
- Maps, advert copies, photographs etc.
- Sample questionnaires/structured interviews and cover letters
- Transcript of a video, recording etc.

There are certain rules guiding the citation of appendices using the APA style and they include:

- The appendix comes immediately after the reference/bibliography page.
- They are lettered A, B, C, D etc.
- Figures and tables in the appendices are labeled A1, A2, B1 and so forth.

## 3.4 THE PRELIMINARY PAGES

The preliminary pages refer to the pages that come before the main research report/text and they are: the title page, certification page, dedication page, acknowledgments page, abstract page, table of contents, list of tables and list of figures or illustrations.

- **Title page**

The title page is usually the first page in your research project and the format varies from one institution to the other. The format will be given by the institution awarding the degree. The

title page contains the title of the research work, the name and matriculation number of the student-researcher, the degree and the date. For example:

Public Image of Nigerian Journalists

By

Wazobia, John Musa

Matric No. 09/01/07/2007

Being a research project submitted to the Faculty of Social Sciences,National Open University in partial fulfillment of the requirements forthe award of the Bachelor of Science (B.Sc) degree in Journalism

June, 2007

- **Certification page**

Most universities have their format or model printed for this purpose. The certification page is the page that carries the signatures of approval from the supervisor, the Head of Department and the external examiner.

- **Dedication page**

The dedication page is the page that indicates the person/individual to whom the work is dedicated to. Usually, such persons are usually family members of the student-researcher.

- **Abstract**

The abstract page is the page that gives readers a summary of the entire research work in 1-2 pages.

- **Acknowledgments page**

This page is for the purpose of recognizing all the individuals, organizations etc. that have contributed to the success of the research work. It includes persons to whom the researcher is indebted for guidance and assistance in the course of doing the research project.

- **Table of contents**

This page provides the readers with the contents in the research project in the order they have been written or arranged. It lists the chapters into which the research project has been divided, the main headings and subdivisions in each chapter with their page numbers.

- **List of tables and figures**

The list of tables comes after the table of contents and it consists of all the tables used in the research project with their exact captions/titles as used within the text. Table captions or titles

should be separated by double spacing but each caption that is more than one line in length should be single-spaced.

List of figures on the other hand contains a list of all the figures or illustrations such as charts, graphs, pictures etc. used in the research work.

## 4.0 CONCLUSION

So far, we have discussed documentation extensively and I hope you have enjoyed yourself and have been able to put your documentation skills into practice. Documentation in research is very important hence, the need to have a good grasp of it. You could read more books on research to have a better understanding.

## 5.0 SUMMARY

In this unit, we have learnt the following:

- What documentation is all about and entails;
- That the APA style is the most popular referencing style used by researchers in the social sciences; and
- A major aspect of the APA format involves handling quotations within the text (body of the research) and compilation of references list/bibliography.

## 6.0 TUTOR-MARKED ASSIGNMENT

- What is documentation and why is it important in communication research?
- Discuss the main features of the APA style of referencing.
- What are the components of the preliminary pages

## 7.0 REFERENCES/FURTHER READINGS


Ajala, O. V. (1996). *Scholarly Writing Guide For Researchers.* Ibadan:MayBest Publishers.

Olayinka, A.I. &Owumi, B.E. (2006).Preparing a research proposal. In A.I. Olayinka, V.O. Taiwo, A. Raji-

Oluyombo, O. (2011). Research companion for students and professionals: A step by step guide. Ogun: Treasure Land Academy.

Oyelade& I.P. Farai (Eds.), Methodology of basic and applied research (pp. 53-82). Ibadan: Dabfol Printers.

Publication Manual of the American Psychological Association. (5th ed) (2002). Washington, D.C: American Psychological Association.

Soyombo, O. (1996). Writing a research report.In B. Ahonsi& O. Soyombo (Eds.), *Readings in social research methods and applications* (pp. 347-390). Ibadan: Caltop Publications (Nigeria) Limited.

Tejumaiye, A. (2003). *Mass communication research: An introduction*. Ibadan: Sceptre Prints Limited.

Wimmer, R. D. and Dominick J. R. (2000).*Mass media research: An introduction*. Belmont, California: Wadsworth Publishing Company.