NATIONAL OPEN UNIVERSITY OF NIGERIA

FACULTY OF ARTS

COURSE CODE: ISL801

COURSE TITLE: RESEARCH METHODS

NATIONAL OPEN UNIVERSITY OFNIGERIA

ISL801: RESEARCH METHODS

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COURSE GUIDE

Introduction

ISL801 is a three credit course presented in five (5) modules and eighteen (17) units. Emphasis is laid on the methods and procedures for conducting academic research with particular reference to Islamic Studies. This is a compulsory course for students of M.A. Islamic Studies, preparing for their final semester research project. The course is usually taught in the first semester of the M.A. Islamic Studies programme. The topics covered relate to the nature and functions of research, approaches to research, components of academic research, criteria for selecting research topics, statistical support, referencing, etc.

Course Aim

The aim of this course is to introduce students to the fundamentals of research methods at advanced level so as to equip you to be able to carry out independent research in Islamic Studies. To achieve this, you will be

(i) introduced to the basic concepts of

(ii) guided on how to select research topics;

(iii) introduced to basic statistics; and

(iv) Exposed to different methods of referencing sources of research information.

Course Objectives

Apart from the specific objectives of each unit, the overall objectives of the

course are presented below. Indeed, upon the successful completion of this course, you should be able to:

(i) Discuss the nature of research;

(ii) State the different approaches to research in Islamic Studies;

(iii) Highlight the different sources of research topics;

(iv) Explain the different components of academic research;

(v) Apply basic statistical tools to Islamic Studies research;

(vi) Access and use different sources for research data;

(vii) Prepare different types of references; and

(viii) Conduct credible research projects in Islamic studies

Working through this course

Success in this course will depend on how thoroughly you are able to study the units, consult the recommended texts and complete all the assignments. There are exercises provided for Self-Assessment. This course will take you about sixteen weeks to complete.

The units have been presented in a way that you can have maximum interaction on each of them. You are advised to be particularly careful in the section on statistics. The choice of statistical models has been carefully chosen to introduce you to modern trends in the field.

Course Materials

The major materials you will find in this course text are:

- The course guide
- The study units

- Recommended texts
- Assignment file
- The presentation schedule

Study Units
The course units are presented in the following modules:

Module1: The Nature of Research in Islamic Studies
Unit 1: Definition, significance and Types of Research
Unit 2: Sources of Research Topics and Nature of Research Problems
Unit 3: Reviewing the Literature and Documenting Research Resources

Module 2: Components of Academic Research
Unit 1: Writing Research Proposal
Unit 2: Hypotheses and Research Questions

Module 3: Research Methods and Designs
Unit 1: Qualitative Research Design
Unit 2: Methods of Quantitative Research
Unit 3: Library/Desk Research
Unit 4: Survey and Experimental Design

Module 4: Basic Statistical Tools for Humanities Research
Unit 1: Introduction to Statistical Data Analysis
Unit 2: Basic Steps of Statistical Data Analysis
Unit 3: Parametric and Non-Parametric Statistical Procedures

Module 5: Documentation of Research Sources
Unit 1: Introduction to Documentation of Research Resources
Unit 2: The Classical Style and Abbreviations
Unit 3: The Chicago Manual of Style (CMS)/TURABIAN
Unit 4: The Manual of Language Association Style (MLA)
Unit 5: The American Psychological Association Style (APA Style)

References and Further Reading

There is a list of references at the end of every unit. You are encouraged to search for these sources and consult them for further information. It will also be very profitable to consult other standard textbooks on each of the topics

discussed.

Assessment

You have access to two types of assessment. These are the Tutor Marked Assignments and the End of Semester Examination. You will be expected to sit for an examination at the end of the course.

Tutor Marked Assignments (TMA)

At the end of each unit, there is the TMA which you will be expected to attempt, applying the information, knowledge and techniques you have acquired in the unit. As the University is now largely automated in its operations, the tutor marked assignments are now done online and the grading is immediate. This has largely helped in reducing the burden of slowness in accessing results by students. Make sure you keep up with the dates for submission of your TMAs as given to you on the University web site and your Study Centre. TMAs carry 30% of your final assessment.

Final Examination and Grading

The final examination carries 70% of your final grading score. Questions will be drawn from all areas of the course. You will be required to read the course material very well before the examination. You are also required to improve your computer skills for your own good.

Course Marking Scheme

The total score for the course is 100% comprising 30% for the TMA's and 70% for the examination. It is advisable that you do all you can to pass both your TMAs and the examination to give you good standing in your final grade.

Course Overview and Presentation Schedule

Units	Title of Work	Weeks Activity	Assessment (end of unit)

Module 1 – Introduction			
1	Definition, significance and Types of Research	Week 1	Assignment 1
2	Sources of Research Topics and Nature of Research Problems	Week 2	Assignment 2
3	Reviewing the Literature and Documenting Research Resources	Week 3	Assignment 3
Module 2 - Components of Academic Research			
1	Writing Research Proposal	Week 4	Assignment 1
2	Hypotheses and Research Questions	Week 5	Assignment 2
Module 3 - Research Methods and Designs			
1	Qualitative Research Design	Week 6	Assignment 1
2	Methods of Quantitative Research	Week 7	Assignment 2
3	Library/Desk Research	Week 8	Assignment 3
4	Survey and Experimental Design	Week 9	Assignment 4
	Module 4 - Basic Statistical Tools for Humanities Research		
1	Introduction to Statistical Data Analysis	Week 10	Assignment 1
2	Basic Steps of Statistical Data Analysis	Week 11	Assignment 2

3	Parametric and Non-Parametric Statistical Procedures	Week 12	Assignment 3
	Module 5 - Documentation of Research Sources		
1	Introduction to Documentation of Research Resources	Week 13	Assignment 1
2	The Classical Style and Abbreviations	Week 14	Assignment 2
3	The Chicago Manual of Style (CMS)/TURABIAN	Week 15	Assignment 3
4	The Manual of Language Association Style (MLA)	Week 16	Assignment 4
5	The American Psychological Association Style (APA Style)	Week 17	Assignment 5
	Examination	Week 18	
	Total	18 Weeks	

How to Get the Most from this Course

The units are meant to guide you just as a teacher would. You are therefore expected to take each unit very seriously. You should not neglect the exercises as they are meant to help you assess yourself as you study.

In each unit, you will identify a similar structure – introduction, objectives and the main contents. The objectives present to you what to be achieved, while the introduction gives a short overview. It is in the main text that details of the topic are presented.

Tutors and Tutorials

You will be provided with tutors at your different Study Centers for tutorials on difficult areas of the course. The tutors will have contacts with you for specified periods. You will benefit maximally from your tutor by participating in the tutorials, completing your assignments in the Course Material and asking questions on difficult areas.

Summary

Skills in research are essential for success in any modern career that requires continuous improvement. Apart from the essentials provided for English language and literary studies, the course holds the key for excellence in all other courses you study as well as your future academic and professional pursuits. It is therefore crucial that you pay a great deal of attention to every aspect of this course.

COURSE MATERIAL

ISL801: **RESEARCH METHODS**

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Unit 1: Definition, significance and Types of Research
Unit 2: Sources of Research Topics and Nature of Research Problems
Unit 3: Reviewing the Literature and Documenting Research Resources

Unit 1: Definition, Significance and Types of Research

1.0 Introduction

It is necessary to understand some basic concepts in research so that researcher especially at postgraduate level can come up with valuable research and sensible report to benefit humanity.

2.0 Objectives

This unit will explain the following items:

- The meaning of research
- The significance of research and
- The types of research.

3.0 Main Contents –

3.1 Definition

Research has been defined in a variety of ways. Among them are the following: Research is structured inquiry that utilizes acceptable scientific methodology to solve problems and create new knowledge that is generally applicable. The scientific methods consist of systematic observation, classification and interpretation of data. 'Scientific research is a systematic, controlled empirical and critical investigation of propositions about the presumed relationships about various phenomena'.

Research is 'a systematic investigation to find answers to a problem'.

'Sociological research is primarily committed to establishing systematic, reliable and valid knowledge about the social world.'

Research is also defined as a careful consideration of study regarding a particular concern or a problem using scientific methods. It is a systematic inquiry to describe, explain, predict and control the observed phenomenon. It involves inductive and deductive methods. Research comprises "creative and systematic work undertaken to increase the stock of knowledge, including knowledge of

humans, culture and society, and the use of the knowledge to devise new applications."

3.2 Significance

The significance and purpose of research is to inform action. Thus, study should seek to contextualize its findings within the larger body of research. Research must always be of high quality in order to produce knowledge that is applicable outside of the research setting. Furthermore, the results of study may have implications for policy and future project implementation. Research is used to establish or confirm facts, reaffirm the results of previous work, solve new or existing problems, support theorems, or develop new theories. A research project may also be an expansion on past work in the field. It can be used to develop further knowledge on a topic, or in the example of a school research project, it can be used to further a student's research prowess to prepare them for future jobs or reports. To test the validity of instruments, procedures, or experiments, research may replicate elements of prior projects or the project as a whole.

The primary purposes of basic research (as opposed to applied research) are documentation, discovery, interpretation, or research and development of methods and systems for the advancement of human knowledge. Approaches to research depend on epistemologies, which vary considerably both within and between humanities and sciences. There are several forms of research: scientific, humanities, artistic, economic, social, business, marketing, practitioner research, life, technological, etc.

One problem that often plagues progress in human society is the slow translation of research into practice. Often, disconnect exists between those who conduct research and those who are positioned to implement the research findings. The underlying problem is that "the production of evidence is organized institutionally with highly centralized mechanisms, whereas the application of that science is highly decentralized. This social distance prevails because scientists are more oriented to the international audiences of other scientists for which they publish than to the needs of practitioners, policy makers, or the local public."

Thus, as researchers, it is imperative to take steps to overcome this barrier. Publishing study may be one initial step to make research known to the global community. Other proactive measures can be taken to encourage the uptake of

evidence-based interventions. For example, research findings can be presented at various venues. Results of study can also be sent to local officials, policy-makers, and community leaders for application.

3.3 Types of Research

Basic Research

Basic research is mostly conducted to enhance knowledge. It covers fundamental aspects of research. The main motivation of this research is knowledge expansion. It is a non-commercial research and does not facilitate in creating or inventing anything. An experiment is a good example of basic research.

Applied Research

Applied research focuses on analyzing and solving real-life problems. It refers to the study that helps in solving practical problems using scientific methods. This type of research plays an important role in solving issues that impact the overall well-being of humans. Finding a specific cure for a disease is an example of applied research.

Problem Oriented Research

As the name suggests, problem-oriented research is conducted to understand the exact nature of the problem in order to find out relevant solutions. The term "problem" refers to having issues or two thoughts while making any decisions.

Problem Solving Research

This type of research is conducted by companies to understand and resolve their own specific problems. This type of research uses applied research to find solutions to the existing problems.

Qualitative Research

Qualitative research is a process that is about inquiry that helps in-depth understanding of the problems or issues in their natural settings. It is a non-statistical research method. Qualitative research is heavily dependent on the experience of the researchers and the questions used to probe the sample. The sample size is usually restricted to 6-10 people in a sample. Open-ended questions are asked in a manner that one question leads to another. The purpose

of asking open-ended questions is to gather as much information as possible from the sample. Qualitative research methods include the following:

- One-to-one interview
- Focus groups
- Ethnographic Research
- Content/Text Analysis
- Case study research

Quantitative Research

Qualitative research is a structured way of collecting data and analyzing it to draw conclusions. Unlike qualitative research, this research method uses a computational, statistical and similar method to collect and analyze data. Quantitative data is all about numbers. It involves a larger population as more number of people means more data. In this manner, more data can be analyzed to obtain accurate results. This type of research method uses close-ended questions because, in quantitative research, the researchers are typically looking at measuring the extent and gathering foolproof statistical data.

Online surveys, questionnaires, and polls are preferable data collection tools used in quantitative research. There are various methods of deploying surveys or questionnaires. In recent times online surveys and questionnaires have gained popularity. Survey respondents can receive these surveys on mobile phones, emails or can simply use the internet to access surveys or questionnaires.

Qualities of Research

Empirical: This is based on observations and experimentation on theories.

Systematic: It follows orderly and sequential procedure.

Controlled: All variables except those that are tested/experimented upon are kept constant.

Employs hypothesis: guides the investigation process

Analytical: There is critical analysis of all data used so that there is no error in their interpretation

Objective, Unbiased, and Logical: all findings are logically based on empirical. It employs quantitative or statistical methods as data are transformed into numerical measures and are treated statistically.

The typology of research can also be classified based on the process that researcher adopts to find answers to research questions. Broadly speaking, there are two approaches to enquiry in terms of the process:

1. **Structured Approach**
   In the structured approach everything that forms the research process – objectives, design, sample, and the questions that you plan to ask of respondents – is predetermined. The structured approach is more appropriate to determine the extent of a problem, issue or phenomenon. For example, to find out how many people have a particular perspective, how many people have a particular problem, or how many people hold a particular view, you need to have a structured approach to enquiry.

2. **Unstructured Approach.**
   The unstructured approach, by contrast, allows flexibility in all the aspects of the process. The unstructured approach is predominantly used to explore its nature, in other words, variation/diversity per se in a phenomenon, issue, problem or attitude towards an issue. For example, if you want to research the different perspectives of an issue, the problems experienced by people living in a community or the different views people hold towards an issue, then these are better explored using unstructured enquiries.

The structured approach to enquiry is usually classified as quantitative research and unstructured as qualitative research. However, both approaches have their place in research. They have their strengths and weaknesses. Therefore, researcher should not restrict him/herself exclusively to just one singular approach.

4.0 Conclusion

There are various meanings of research, but basically research is structured inquiry that utilizes acceptable scientific methodology to solve problems and create new knowledge that is generally applicable. The significance of research is to inform action, and there are various types of research depending on the criteria used.

5.0 Summary

This unit investigated the meaning, the significance and the types of research.

6.0 Tutor Marked Assignments (TMA)

- Explain what academic research is and discuss its significance.
- Mention and explain the various types of academic research.

7.0 References/Further Reading

Grinnell, R. (Ed.). (1993). Social work research and evaluation (4th ed.). Itasca, IL: F.E. Peacock.

Flick, U. (2014). An introduction to qualitative research (5th ed.). Los Angeles, CA: SAGE.

Bell, J. (2005). Doing your research project: A guide for first-time researchers in education, health and social science. Maidenhead, UK: McGraw-Hill.

Blaikie, N. (1993). Approaches to social inquiry. London, England: Polity.

Booth, A., Papaioannou, D., & Sutton, A. (2012). Systematic approaches to a successful literature review. Los Angeles, CA: SAGE.

Unit 2: Sources of Research Topics and Nature of Research Problems

1.0 Introduction
2.0 Objectives
3.0 Main Contents – **Sources of Research Topics and Nature of Research Problems**
4.0 Conclusion
5.0 Summary
6.0 Tutor Marked Assignments (TMA)
7.0 References/Further Reading

1.0 Introduction

2.0 Objectives

This unit will explore the sources of research topics and nature of research problems.

3.0 Main Contents –

Ideas for research topics can arise from a range of sources such as personal or professional experience, a theory, the media, or other research studies.

3.1. Sources of Research Topics

Personal or Professional Experience

Everyday personal or professional experience may prompt researcher to identify a problem for which solution could be sought. Alternatively, researcher may encounter a question or questions that he/she would like to try to find answers.

Theory

Theories are ideas about how things relate to each other. Theories may be general, commonly held beliefs or more technical ideas. There are many ways of expressing theories, some are very formal, and others are informal. Theories may be useful in suggesting interesting questions and generally guiding fieldwork, but should not restrict us from exploring alternative explanations. The end result of the research process is knowledge.

Literature and the Media

There are many sources of literature, such as books, journal articles, and newspapers. When searching and reading literature it is possible to encounter gaps in information and knowledge, and problems for which there is currently no solution. These may provide a good basis for research. A substantial amount of information is presented by the media, such as television, which again might give rise to research ideas.
https://www.soas.ac.uk/cedep-demos 20/09/2020

Research resources are usually thought of as **primary sources and secondary sources.** Primary sources can be firsthand accounts of actual events written by an eyewitness or original literary or artistic works. They may be letters, official records, interviews, survey results, or unanalyzed statistical data. These sources contain raw data and information, such as the original work of art or immediate impressions.
Secondary sources, on the other hand, are usually discussions, evaluations, syntheses, and analyses of primary- and secondary-source information. There is no doubt that researchers use both primary and secondary sources throughout academic profession. When they use them, and in what combination, usually depend on what the research inquiry is and the discipline for which they are writing. If researcher is unclear about which sources to use, he/she consults literatures, academic advisors, mentors or instructors for guidance.

Research resources can also come from experiences; print media, such as books, brochures, journals, magazines, newspapers, and books; and CD-ROMs and other electronic sources, such as the Internet and the World Wide Web. They may also come from interviews and surveys that researchers design. They may develop own field research where they collect data through observation or experimentation. For example, before interviewing candidates for a study on adolescent girls, they may use library research to get some background information on adolescent girls and their current issues. They may also want to observe them in a school setting, noting certain behaviors, dress, or mannerisms, depending on their focus. They may also want to review other studies on adolescent girls to see how the studies were conducted and the data interpreted. They may even design a survey to collect firsthand information from the girls themselves or from their teachers.

Research question and the kind of research done will guide the types of resources they will need to complete the research. Conducting research today requires that researcher understands how to locate resources—in libraries and frequently online—and that they have the skill and motivation to work with librarians and library technology. Identifying and managing those resources within research project is as important as integrating them into researcher's own words and their research writing voice.
https://www.umgc.edu/current-students/learning-resources/writing-center/online-guide-to-writing/tutorial/chapter4/ch4-06.html 20/09/2020

3.2. Nature of Research Problems

The central aim of this sub-unit is to describe the process of formulating a research problem, even though the specific process that researchers are likely to adopt depends upon:

- expertise in research methodology;
- knowledge of the subject area;
- understanding of the issues to be examined; and
- the extent to which the focus of study is predetermined.

If researcher is not very familiar with the research process and/or does not have a very specific idea about what is to be researched, he/she may need to follow every step detailed in this sub-unit. However, more experienced researchers can take a number of shortcuts. The process outlined here assumes that the researcher has neither acquired the required knowledge of the process of formulating a research problem, nor a specific idea about what is to be researched.
However, researchers need to make sure that the idea is researchable, as not all problems lend themselves readily to research methodologies.

The Research Problem

Generally speaking, any question that researcher wants answered and any assumption or assertion that he/she may want to challenge or investigate can become a research problem or a research topic for study. However, it is important to remember that not all questions can be transformed into research problems and some may prove to be extremely difficult to study. According to

Powers, Meenaghan and Twoomey (1985: 38), 'Potential research questions may occur to us on a regular basis, but the process of formulating them in a meaningful way is not at all an easy task.' As a beginner, it might seem easy to formulate a problem but it requires considerable knowledge of both the subject area and research methodology.

Once researcher examines a question more closely, he/she will soon realize the complexity of formulating an idea into a problem which is researchable. 'First identifying and then specifying a research problem might seem like research tasks that ought to be easy and quickly accomplished. However, such is often not the case' (Yegidis & Weinback 1991: 35) It is essential for the problem which researcher formulates to be able to withstand scrutiny, in terms of the procedures required to be undertaken. Hence researcher needs to spend considerable time in thinking it through.

The Importance of Formulating a Research Problem

The formulation of a research problem is the first and most important step of the research process. It is like the identification of a destination before undertaking a journey. In the absence of a destination, it is impossible to identify the shortest – or indeed any – route. Similarly, in the absence of a clear research problem, a clear and economical plan is impossible. To use another analogy, a research problem is like the foundation of a building. The type and design of the building are dependent upon the foundation. If the foundation is well designed and strong, one can expect the building to also be strong. The research problem serves as the foundation of a research study: if it is well formulated, one can expect a good study to follow. According to Kerlinger, if one wants to solve a problem, one must generally know what the problem is. It can be said that a large part of the problem lies in knowing what one is trying to do (1986: 17)

Researcher must have a clear idea of what he/she wants to find out about and not what the researcher thinks he/she must find. A research problem may take a number of forms, from the very simple to the very complex. The way researcher formulates a problem determines almost every step that follows:

- the type of study design that can be used;
- the type of sampling strategy that can be employed;

- the research instrument that can be used or developed;
- and the type of analysis that can be undertaken.

Supposing the broad area of interest for a researcher is depression. And supposing s/he wants to conduct a research study regarding services available to patients with depression living in a community. If the focus of the researcher is to find out the types of service available to patients with depression, the study will dominantly be descriptive and qualitative in nature. These types of studies fall in the category of qualitative research and are carried out using qualitative research methodologies.

On the other hand, if a researcher wants to find out the extent of use of these services, that is the number of people using them, the study will mainly use quantitative methodologies even though it is descriptive in nature, describing the number of people using a service. If the focus is to determine the extent of use in relation to the personal attributes of the patients, the study will be classified as correlational (and quantitative). The methodology used will be different from the one used in the case of a descriptive study. Similarly, if the researcher's aim is to find out the effectiveness of these services, the study will again be classified as correlational and the study design used, methods of collecting data and its analysis will be a part of the quantitative methodology. Hence, it is important for researcher to understand that the way s/he formulates a research problem determines all the subsequent steps s/he has to follow during the research journey.

The formulation of a problem is like the 'input' to a study, and the 'output' – the quality of the contents of the research report and the validity of the associations or causation established – is entirely dependent upon it. Hence the famous saying about computers, 'garbage in, garbage out', is equally applicable to a research problem.

Initially, researcher may become more confused but this is normal and a sign of progression. Confusion is often but a first step towards clarity. It is necessary for researcher to take time on formulating the research problem, for the clearer s/he is about the research problem/question, the easier it will be.

Sources of Research Problems

This section is of particular relevance when researcher has not yet selected a research topic and does not know where to start from. Most research in the humanities revolves around four **'P's**:

- people;
- problems;
- programs;
- phenomena

In fact, a closer look at any academic or occupational field will show that most research revolves around these four Ps. The emphasis on a particular 'P' may vary from study to study but generally, in practice, most research studies are based upon at least a combination of two Ps. Researcher may select a group of individuals (a group of individuals – or a community as such – 'people'), to examine the existence of certain issues or problems relating to their lives, to ascertain their attitude towards an issue ('problem'), to establish the existence of a regularity ('phenomenon') or to evaluate the effectiveness of an intervention ('programme').

The researcher's focus may be the study of an issue, an association or a phenomenon per se; for example, the relationship between unemployment and street crime, smoking and cancer, or fertility and mortality, which is done on the basis of information collected from individuals, groups, communities or organizations. The emphasis in these studies is on exploring, discovering or establishing associations or causation. Similarly, researcher can study different aspects of a program: its effectiveness, its structure, the need for it, consumers' satisfaction with it, and so on. In order to ascertain these, researcher collects information from people.

Every research study has two aspects: the people provide researcher with the 'study population', whereas the other three Ps furnish the 'subject areas'. The study **population** – individuals, groups and communities – is the people from whom the information is collected. The **subject area** is a problem, program or phenomenon about which the information is collected.

Researcher can study a problem, a programme or a phenomenon in any academic field or from any professional perspective. For example, s/he can measure the effectiveness of a programme in the field of health, education, social work, industrial management, public health, nursing, health promotion or welfare, or s/he can look at a problem from a health, business or welfare perspective. Similarly researcher can gauge consumers' opinions about any aspect of a programme in the above fields. So researcher can examine own academic discipline or professional field in the context of the four **Ps** in order to identify anything that looks interesting. For example, if s/he is a student in the health field there are an enormous number of issues, situations and associations within each subfield of health that s/he could examine. Issues relating to the spread of a disease, drug rehabilitation, an immunisation programme, the effectiveness of a treatment, the extent of consumers' satisfaction or issues concerning a particular health programme can all provide a range of research problems.

Similarly, in education there are several issues: students' satisfaction with a teacher, attributes of a good teacher, the impact of the home environment on the educational achievement of students, and the supervisory needs of postgraduate students in higher education. Any other academic or occupational field can similarly be dissected into subfields and examined for a potential research problem. Most fields lend themselves to the above categorization even though specific problems and programmes vary markedly from field to field.

The concept of **4Ps** is applicable to both quantitative and qualitative research, though the main difference at this stage is the extent of their specificity, dissection, precision and focus. In qualitative research these attributes are deliberately kept very loose so that researcher can explore more as s/he goes along, in case s/he finds something of relevance. Researcher should not bind him/herself with constraints that would put limits on the ability to explore.

Considerations in Selecting a Research Problem

When selecting a research problem/topic there are a number of considerations to keep in mind, which will help to ensure that the study will be manageable and the researcher will remain motivated. These considerations are:

Interest – Interest should be the most important consideration in selecting a research problem. A research endeavor is usually time consuming, and involves

hard work and possibly unforeseen problems. If researcher selects a topic which does not greatly interest him/her, it could become extremely difficult to sustain the required motivation and put in enough time and energy to complete it.

Magnitude – Researcher should have sufficient knowledge about the research process to be able to visualize the work involved in completing the proposed study. S/he needs to narrow down the topic to something manageable, specific and clear. It is extremely important to select a topic that can be managed within the time and with the resources at disposal. Even if the researcher is undertaking a descriptive study, she needs to carefully consider its magnitude.

Measurement of concepts – If a researcher is using a concept in the study (in quantitative studies), s/he needs to make sure to be clear about its indicators and their measurement. For example, if the researcher plans to measure the effectiveness of a health promotion programme, s/he must be clear as to what determines effectiveness and how it will be measured. S/he should not use concepts in research problem that s/he is not sure how to measure. This does not mean that the researcher cannot develop a measurement procedure as the study progresses. While most of the developmental work will be done during the study, it is imperative that researcher is reasonably clear about the measurement of these concepts at this stage.

Level of expertise – Researcher must make sure you s/he has an adequate level of expertise for the task s/he is proposing. S/he should allow for the fact that will be learned during the study and may receive help from research supervisor and others, but the researcher needs to do most of the work by him/herself.

Relevance – Researcher must select a topic that is of relevance to him/her as a professional. S/he must also ensure that the study complements the existing body of knowledge, bridges current gaps or is useful in policy formulation. This will help the researcher sustain interest in the study.

Availability of data – If the topic entails collection of information from secondary sources (office records, client records, census or other already-published reports, etc.) the researcher needs to make sure that this data is available and in the format s/he wants before finalizing the topic.

Ethical issues – Another important consideration in formulating a research problem is the ethical issues involved. In the course of conducting a research study, the study population may be adversely affected by some of the questions (directly or indirectly); deprived of an intervention; expected to share sensitive and private information; or expected to be simply experimental 'guinea pigs'. How ethical issues can affect the study population and how ethical problems can be overcome should be thoroughly examined at the problem-formulation stage.

Steps to Take When Formulating a Research Problem

The formulation of a research problem is the most crucial part of the research journey as the quality and relevance of research project entirely depends upon it. As mentioned earlier, every step that constitutes the how part of the research journey depends upon the way researcher formulated the research problem. Despite the importance of this step, there is very little available by way of specific guidance in other books. This task is largely left either to the teachers of research methodology or to students to learn for themselves. However, here we offer a very specific set of step-by-step guidelines in one place.

The process of formulating a research problem consists of a number of steps. Working through these steps presupposes a reasonable level of knowledge in the broad subject area within which the study is to be undertaken and the research methodology itself. A brief review of the relevant literature helps enormously in broadening this knowledge base. Without such knowledge it is difficult to 'dissect' a subject area clearly and adequately.

If researcher does not know what specific research topic, idea, questions or issue s/he wants to research, s/he may first go through the following steps:

Step 1- Identify a broad field or subject area of interest to you. Ask yourself, 'What is it that really interests me as a professional?'

In the author's opinion, it is a good idea to think about the field in which you would like to work after graduation. This will help you to find an interesting topic, and one which may be of use to you in the future. For example, if you are a social work student, inclined to work in the area of youth welfare, refugees or domestic violence after graduation, you might take to research in one of these areas. And as student of religious studies, you may want to research the peculiarities of the religion of Islam. As far as the research journey goes, these

are the broad research areas. It is imperative that you identify one of interest to you before undertaking your research journey.

Step 2 - Dissect the broad area into subareas. At the onset, you will realize that all the broad areas mentioned above – youth welfare, refugees, domestic violence, study of religion – have many aspects. For example, there are many aspects and issues in the area of domestic violence. Similarly, you can select any subject area from other fields such as community health or consumer research and go through this dissection process. In preparing this list of subareas you should also consult others who have some knowledge of the area and the literature in your subject area. Once you have developed an exhaustive list of the subareas from various sources, you proceed to the next stage where you select what will become the basis of your enquiry.

Step 3 - Select what is of most interest to you. It is neither advisable nor feasible to study all subareas. Out of this list, select issues or subareas about which you are passionate. This is because your interest should be the most important determinant for selection, even though there are other considerations which have been discussed in the previous section, 'Considerations in selecting a research problem'. One way to decide what interests you most is to start with the process of elimination. Go through your list and delete all those subareas in which you are not very interested. You will find that towards the end of this process, it will become very difficult for you to delete anything further. You need to continue until you are left with something that is manageable considering the time available to you, your level of expertise and other resources needed to undertake the study. Once you are confident that you have selected an issue you are passionate about and can manage, you are ready to go to the next step.

Step 4 - Raise research questions. At this step ask yourself, 'What is it that I want to find out about in this subarea?' Make a list of whatever questions come to your mind relating to your chosen subarea and if you think there are too many to be manageable, go through the process of elimination, as you did in Step 3.

Step 5 - Formulate objectives. Both your main objectives and your sub-objectives now need to be formulated, which grow out of your research questions. The main difference between objectives and research questions is the

way in which they are written. Research questions are obviously that – questions. Objectives transform these questions into behavioral aims by using action-oriented words such as ‘to find out’, ‘to determine’, ‘to ascertain’ and ‘to examine’. Some researchers prefer to reverse the process; that is, they start from objectives and formulate research questions from them. Some researchers are satisfied only with research questions, and do not formulate objectives at all. If you prefer to have only research questions or only objectives, this is fine, but keep in mind the requirements of your institution for research proposals. For guidance on formulating objectives, see the later section.

Step 6 - Assess your objectives. Now examine your objectives to ascertain the feasibility of achieving them through your research endeavor. Consider them in the light of the time, resources (financial and human) and technical expertise at your disposal.

Step 7 - Double-check. Go back and give final consideration to whether or not you are sufficiently interested in the study, and have adequate resources to undertake it. Ask yourself, ‘Am I really enthusiastic about this study?’ and ‘Do I really have enough resources to undertake it?’ Answer these questions thoughtfully and realistically. If your answer to one of them is ‘no’, reassess your objectives.

4.0 Conclusion
5.0 Summary
6.0 Tutor Marked Assignments (TMA)

7.0 References/Further Reading

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Unit 3: Reviewing the Literature and Documenting Research Resources

1.0 Introduction
2.0 Objectives
3.0 Main Contents – **Reviewing the Literature and Documenting Research Resources**
4.0 Conclusion
5.0 Summary
6.0 Tutor Marked Assignments (TMA)
7.0 References/Further Reading

1.0 Introduction

One of the critical primary responsibilities in undertaking a research study is to peruse the existing literature so that the researcher gets familiar with the available body of knowledge in his/her area of interest. This task is always time consuming, tiresome and exasperating, however, it is also worthwhile. Reviewing the literature is a fundamental part of the research process and makes immense contribution to practically every step of the research.

2.0 Objectives

In this unit students will learn about:

- The purposes of literature review in research
- How to carry out a literature search
- How to review the selected literature
- How to develop theoretical and conceptual frameworks
- How to write a literature review

3.0 Main Contents

3.1 The purposes of literature review in research

In the first stages of research literature review helps to establish the theoretical roots of the study; it clarifies the ideas and helps develop research methodology. Further, it serves to enhance and consolidate researcher's own knowledge base and helps him/her to integrate findings with the existing body of knowledge. Since an important responsibility in research is to relate findings with those of others, the literature review plays a very important role. In writing the research report, it helps to either validate or refute earlier research.

3.2. How to carry out a literature search

In a situation where researcher does not have a specific research problem, s/he could review the literature in his/her broad area of interest with the aim of gradually narrowing it down to what s/he wants to find out about. After that the literature review should be focused around the research problem. However, there can be a danger in reviewing the literature without having a specific idea of what the researcher wants to study. It can condition the researcher's thinking about his/her study and the methodology s/he might adopt, resulting in a less innovative choice of research problem and methodology than otherwise would have been the case. Therefore, researcher should try broadly to conceptualize his/her research problem before undertaking major literature review.

There are four steps involved in conducting a literature review:
1. Searching for the existing literature in the area of study.
2. Reviewing the selected literature.
3. Developing a theoretical framework, and
4. Evolving a conceptual framework.

The skills required for the above tasks are different; however, developing theoretical and conceptual frameworks is more difficult than the other tasks.

Searching for the existing literature

To search effectively for the literature in the field of enquiry, it is necessary that the investigator has at least some idea of the broad subject area and of the problem s/he wishes to investigate, in order to set parameters for the search. Next is to, compile a bibliography for this broad area. There are three sources that researcher can use to prepare a bibliography: a) books; b) journals; c) the Internet.

Reviewing the selected literature

After the researcher might have identified several books and articles as useful, the next step is to start reading them critically to pull together themes and issues that are of relevance to the study. Except the researcher has a theoretical framework of themes in mind to start with, s/he should use separate sheets of paper for each theme or issue identified as s/he goes through selected books and articles. While going through the literature the investigator should carefully and critically examine it with respect to the following aspects:

- Whether the knowledge relevant to the theoretical framework has been confirmed beyond doubt.
- The theories put forward, the criticisms of these and their basis, the methodologies adopted and the criticisms of them.
- Examine to what extent the findings can be generalized to other situations.
- Notice where there are significant differences of opinion among researchers so the investigator can give opinion about the validity of these differences.
- Ascertain the areas in which little or nothing is known – the gaps that exist in the body of knowledge.

Developing a theoretical framework

Examining the literature can be an endless task, but as the researcher has limited time it is important to set parameters by reviewing the literature in relation to some main themes pertinent to the research topic. As s/he starts reading the literature, s/he will soon discover that the problem s/he wishes to investigate has its roots in a number of theories that have been developed from different perspectives. The information obtained from different books and journals now needs to be sorted under the main themes and theories, highlighting agreements and disagreements among the authors and identifying the unanswered questions or gaps. Investigator will also realize that the literature deals with a number of aspects that have a direct or indirect bearing on the research topic. Therefore, there is need to use these aspects as a basis for developing theoretical framework. The review of literature should sort out the information, as mentioned earlier, within this framework. Unless researcher reviews the literature in relation to this framework, s/he will not be able to develop a focus in literature search: that is, the theoretical framework provides the investigator with

a guide as reading progresses. This brings us to the enigma mentioned previously that until researcher goes through the literature s/he cannot develop a theoretical framework, and until s/he has developed a theoretical framework the investigator cannot effectively review the literature. The solution is therefore to read some of the literature and then attempt to develop a framework, even if a loose one, within which the researcher can organize the rest of the literature he reads. As the investigator reads more about the area, s/he is likely to change the framework.

Evolving a conceptual framework

The conceptual framework is the basis of the research problem. It stems from the theoretical framework and usually focuses on the section(s) which become the basis of study. Whereas the theoretical framework consists of the theories or issues in which study is embedded, the conceptual framework describes the aspects investigator selected from the theoretical framework to become the basis of his/her enquiry. Hence the conceptual framework grows out of the theoretical framework and relates to the specific research problem.

Writing literature review and documenting research resources

After reading and reviewing the selected literature, what remains is to write literature review. Two of the broad functions of a literature review are (1) to provide a theoretical background to the study and (2) to enable researcher contextualize his/her findings in relation to the existing body of knowledge, in addition to refining the methodology. The content of literature review should reflect these two purposes. In order to fulfill the first purpose, investigator should identify and describe various theories relevant to his/her field; and specify gaps in existing knowledge in the area, recent advances in the area of study, current trends and so on.

In order to comply with the second function, researcher should integrate the results from his/her study with specific and relevant findings from the existing literature by comparing the two for confirmation or contradiction. It is necessary to note that at this stage the investigator can only accomplish the first function of the literature review, to provide a theoretical background to the study. For the second function, the contextualization of the findings, the investigator has to wait till s/he gets to the stage of writing research report. While reading the literature for theoretical background of study, investigator will realize that certain themes have emerged.

Here, the researcher should endeavor to list the main ones, converting them into subheadings. Some researchers however, may write up the entire literature review in one section, entitled 'Review of the literature', 'Summary of literature' or 'The literature review', without subheadings.

Nevertheless, it is strongly recommended that 'literature review' be written under subheadings based upon the main themes that investigator has discovered and which form the basis of the theoretical framework. These subheadings should be precise, descriptive of the theme in question and follow a logical progression.

Writing the literature review should be thematic in nature, based on main themes; the sequence of these themes in report writing should follow a coherent progression; different arguments should be corroborated with specific quotations and citations from the literature and should follow an acceptable academic referencing style.

4.0 Conclusion

Reviewing the literature brings about clarity and focus on the research problem. It helps improve the research methodology and broadens the knowledge base.

Reviewing the literature involves a number of steps: searching for existing literature in the area of study; reviewing the selected literature; using it to develop a theoretical framework from which the study emerges and also using it to develop a conceptual framework which will become the basis of the researcher's investigation. Reviewing the literature is a constant process. It normally starts even before a research problem is confirmed and continues until the report is written. There is a puzzle in the literature review: investigator cannot undertake an effective literature review unless s/he has formulated a research problem, yet the literature review plays an exceptionally important role in helping researcher to formulate research problem.

5.0 Summary

The main sources for identifying literature to review are books, journals and the internet. There are several sources which can provide information about locating relevant journals. The literature review serves two important function: it helps provides theoretical background to the study, and it helps to contextualize findings by comparing them with what others have found out in relation to the area of enquiry. In this unit we have been able to discuss:

- The purposes of literature review in research
- How to carry out a literature search
- How to review the selected literature
- How to develop theoretical and conceptual frameworks
- How to write a literature review

6.0 Tutor Marked Assignments (TMA)

- Examine the functions of literature review in academic writing.
- Identify and explain at least three sources from which literature review can be carried out.

7.0 References/Further Reading

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Module 2: Components of Academic Research

Unit 1: Writing Research Proposal

Unit 2: Hypotheses and Research Questions

Unit 1: Writing Research Proposal

1.0 Introduction

2.0 Objectives

3.0 Main Contents – The Concept and Connotation of Research Proposal

- The Elements of Research Proposal

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignments (TMA)

7.0 References/Further Reading

1.0 Introduction

2.0 Objectives

3.0 Main Contents – The Concept and Connotation of Research Proposal

- The Elements of Research Proposal

3.1. The Concept and Connotation of Research Proposal

A research proposal is a concise and coherent summary of proposed research. Research proposal should set out the central issues or questions that researcher intends to address. It should outline the general area of study within which investigator's research falls, referring to the current state of knowledge and any recent debates on the topic, as well as demonstrate the originality of the proposed research. The proposal also gives an opportunity to show that the investigator has the aptitude for postgraduate level research by demonstrating that he/she has the ability to communicate complex ideas clearly, concisely and critically.

In addition, the proposal also helps to match investigator's research interest with an appropriate supervisor. In some cases, the proposal is a key part of application, on which potential supervisors will decide if the research is something they can support.

After doing the necessary preparatory work towards research, the next step is to put everything together in writing in a way that provides adequate information about the study, for the research supervisor and others. This overall plan is called a research proposal. It tells a reader about research problem and how the researcher is planning to investigate it. Broadly speaking, the main function of research proposal is to detail the operational plan for obtaining answers to

research questions. In doing so it ensures – and reassures the readers of – the validity of the methodology to obtain answers accurately and objectively.
Universities and other institutions may have differing requirements regarding the style and content of a research proposal, but the majority of institutions would require most of what is set out hereunder. Requirements may also vary within an institution, from discipline to discipline or from supervisor to supervisor.
However, a research proposal must tell research supervisor and/or a reviewer of the study, what the researcher is proposing to do; how the researcher plans to proceed; and why he/she selected the proposed strategy. Therefore research proposal should contain the following information about the study:

- a statement of the objectives of the study;
- a list of hypotheses, if you are testing any;
- the study design you are proposing to use;
- the setting for your study;
- the research instrument(s) you are planning to use;
- information on sample size and sampling design;
- information on data processing procedures;
- an outline of the proposed chapters for the report;
- the study's problems and limitations; and
- the proposed time-frame.

In summary, the research proposal should demonstrate or suggest to the faculty assessors that:

- The researcher is engaging in a genuine and worthwhile enquiry, that there is a need for the research, that it is significant and important, and that it will contribute something original to the field he/she is working on.
- That the researcher is aware of the breadth and depth of the major schools of thought relevant to the proposed area of work.
- That the researcher is able to justify and establish a particular theoretical orientation, and develop a methodological approach.
- That there is enough funding or available equipment to be able to collect the data.
- That the topic aligns with the researcher's interests and capabilities, and there are supervisors who are open to working with him/her.

- That the researcher can complete the research in the expected time period.
- The researcher should note that the research plan he/she is submitting is flexible, and that it may change in focus and perhaps, in substance as he/she develops ideas and progresses through the necessary stages of conducting the research.

3. 2. The Outline/Elements of Research Proposal include the following:

1. A cover page - This is necessary and it identifies:

- The area of research by means of a tentative or **proposed title.**
- It shows name, contact details, and qualifications of the researcher.
- It carries the institutional or university name, as well as the specific department.
- It shows supervisor's and co-supervisor's names, as well as
- The degree level being attempted.

2. Introduction and Research Context

An introduction should follow a general-to-specific writing pattern. It normally starts by providing background information that orientates the reader to the research's general socio-political, historical, scientific, and educational contexts (whichever is most relevant). It may also include a theoretical, personal, or policy-based motivation for the research as a starting point. The introduction attempts to persuade, inform or indicate to the reader, the need for the research (the rationale for the research). This is an attempt to convince the reader that the research will be useful, interesting, or significant for the academic community, and may be suggestive of the research 'gap' which arises from the literature review.

A well-written introduction is an efficient way of getting reader's attention early on. This is an opportunity to answer the questions investigator considered when preparing proposal: why is the research important? How does it fit into the existing strengths of the department? How will it add something new to the existing body of literature?

It is unlikely that investigator will be able to review all relevant literature at this stage, so he/she should explain the broad contextual background against which he/she will conduct the research. The investigator should also include a brief overview of the general area of study within which the proposed research falls, summarizing the current state of knowledge and recent debates on the topic. This will allow him/her to demonstrate a familiarity with key texts in the relevant field

as well as the ability to communicate clearly and concisely.

3. Purpose and Aims –

This section should state clearly and concisely the purpose of the research (and situating it in the broader context). It outlines the aims and key research questions. The purpose statement should provide a specific and accurate synopsis of the overall purpose of the study. If the purpose is not clear to the writer, it cannot be clear to the reader. It briefly defines and delimits the specific area of the research. The researcher will revisit this in greater detail in a later section.

The purpose section foreshadows the hypotheses to be tested or the questions to be raised, as well as the significance of the study. These will require specific elaboration in subsequent sections.

The purpose statement can also incorporate the **rationale** for the study. Some committees prefer that the purpose and rationale be provided in separate sections, however.

Key points to keep in mind when preparing a purpose statement is that the central concepts or ideas of the study must be clearly identified and defined. Some Committee Chairs prefer a separate section to this end. When defining terms, researcher needs to make a judicious choice between using descriptive or operational definitions, identify the specific method of inquiry to be used, as well as the unit of analysis in the study.

4. Statement of the Problem

A. The problem statement describes the context for the study and it also identifies the general analysis approach".

B. A problem may be defined as the issue that exists in the literature, theory, or practice that leads to a need for the study.

C. It is important in a proposal that the problem stand out—that the reader can easily recognize it. Sometimes, obscure and poorly formulated problems are masked in an extended discussion. In such cases, reviewers and/or committee members will have difficulty recognizing the problem.

D. A problem statement should be presented within a context, and that context should be provided and briefly explained, including a discussion of the conceptual or theoretical framework in which it is embedded. Clearly and

succinctly identify and explain the problem within the framework of the theory or line of inquiry that undergirds the study. This is of major importance in nearly all proposals and requires careful attention. It is a key element that is looked for in proposals. It is essential in all quantitative research and much qualitative research.

E. The problem must be stated in terms intelligible to someone who is generally sophisticated but who is relatively uninformed in the area of investigation.

F. Effective problem statements answer the question "Why does this research need to be conducted." If a researcher is unable to answer this question clearly and succinctly, and without resorting to hyper speaking (i.e., focusing on problems of macro or global proportions that certainly will not be informed or alleviated by the study), then the statement of the problem will come off as ambiguous and diffuse.

G. For conference proposals, the statement of the problem is generally incorporated into the introduction; academic proposals for theses or dissertations should have this as a separate section.

5. Literature review – The purpose of this is to demonstrate to readers that the researcher has read enough to show that he/she is aware of who the most significant writers or researchers are, in the area of research. It specifies which issues or concepts the researcher will concentrate on in his/her review. However, this may well change as the researcher reads more widely and deeply. It shows that the researcher can exercise critical judgment in selecting which issues to focus on and which to ignore. Literature review shows that the researcher can take a critical approach to the area of research. And to argue for the validity of the area of research in terms of its need to address a 'gap', and to establish the theoretical orientation he/she is planning to take.

6. Research Questions

The proposal should set out the central aims and key questions that will guide research. Many research proposals are too broad, therefore researcher should make sure that the project is sufficiently narrow and feasible (i.e. something that is likely to be completed within the normal time frame).

Researcher might find it helpful to prioritize one or two main questions, from

which he/she can then derive a number of secondary research questions. The proposal should also explain intended approach to answering the questions: will the approach be empirical, doctrinal or theoretical, etc.?

7. Research Design (Methodological Approach)

The purpose of this is to describe research plans and approach by indicating the rationale and theoretical source for the choice of research approach. It describes the rationale for the selection of participants, methods of data collection and analysis, and the steps the researcher will take to ensure that ethical practices are followed. The research design will suggest the limits, restrictions or boundaries of the research. It also provides a timetable or research action plan which explains each of the tasks to be carried out and the anticipated times for completion (the format of this should be clear and concise).

How will the researcher achieve the research objectives? The proposal should present research methodology, using specific examples to explain how he/she is going to conduct the research (e.g. techniques, sample size, target populations, equipment, data analysis, etc.).

The methods may include visiting particular libraries or archives, field work or interviews. If the proposed research is library-based, the investigator should explain where key resources are located. If there is plan to conduct field work or collect empirical data, he/she should provide details about this (e.g. if the researcher plans interviews, who will he/she interview? How many interviews will be conducted? Will there be problems of access?). This section should also explain how the investigator is going to analyze the research findings.

A discussion of the timescale for completing the research would also be beneficial. The researcher should provide a realistic time plan for completing research degree study, showing a realistic appreciation of the need to plan the research and how long it is likely to take. It is important that the investigator is not over-optimistic with time frames.

8. Thesis Structure

This section should provide a description of each proposed chapter by means of a small paragraph which shows how it links to any previous chapters, and how it links to any chapters which may follow. It also provides a proposed table of contents.

9. Significance/Expected Outcomes

This section should provide the anticipated outcomes and a series of paragraphs predicting the significance of the research. The proposal should demonstrate the originality of the intended research. The researcher should therefore explain why the research is important (for example, by explaining how the research builds on and adds to the current state of knowledge in the field or by setting out reasons why it is timely to research on the proposed topic) and providing details of any immediate applications, including further research that might be done to build on the findings.

10. Glossary of Terms

This section should provide a list of specialized terms, words, or concepts, and their meanings (e.g. foreign borrowings, acronyms, specialized concepts etc.).

11. Appendices

This section should provide relevant documents which are best not seen in the main proposal text (because they affect readability). These may be source documents, pilot study data, interview questions, surveys questionnaires instruments, etc.

11. References

This section should provide a list of the sources or academic works that have been found and consulted up to the present. The reference style to adopt must be one recommended by the supervisor(s) of the research. It should include a list of references to key articles and texts discussed within the research proposal, as well as a selection of sources that may be relevant to the project.

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignments (TMA)

7.0 References/Further Reading

- Ranjit Kumar, *Research Methodology* 3rd Edition (Los Angeles: Sage Publications Ltd., 2011).

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Unit 2: Hypotheses and Research Questions

1.0 Introduction
2.0 Objectives
3.0 Main Contents – **Hypotheses**
- Research Questions
4.0 Conclusion
5.0 Summary
6.0 Tutor Marked Assignments (TMA)
7.0 References/Further Reading

1.0 Introduction

A hypothesis is a tentative answer to a research problem that is advanced so that it can be tested. It is appropriate to use a hypothesis when investigator is testing a theory. A theory is 'an idea about how things relate to each other'. If a researcher has an expectation of how his/her research question will be answered (the outcome) then it is fair to say that s/he has a theory in mind. If s/he asks of the research question "What is the expected outcome?" and has an answer, s/he can ask why? What is his/her thinking behind this prediction? This is essentially the theory that the researcher will be testing.

If the researcher is not able to predict the answer to his/her question then the approach is not one of theory testing and he/she should not proceed with developing hypotheses to test. The research questions remain as such. This will be the case if the research is **descriptive or exploratory** in nature.

In **exploratory** research the base knowledge of a subject may be so low that investigator cannot formulate meaningful hypotheses. Nonetheless, exploratory research should be guided by a clear sense of purpose. Instead of hypotheses, the design for the exploratory study should **state its purpose**, or **research objectives** as well as criteria by which the exploration will be judged successful.

Interpretative research, which seeks to develop knowledge through understanding meaning, does not usually proceed with hypotheses.

2.0 Objectives

This unit will give the definition of hypothesis. It will identify and discuss the characteristics, functions and typologies of hypothesis. It will also make attempt to relate between hypothesis and research questions in academic writing.

3.0 Main Contents – Hypothesis

3.1 Definition - A hypothesis is a statement subject to verification; a guess but experienced guess based on some facts. It is a hunch, assumption, suspicion, assertion or an idea about a phenomenon, relationship, or situation, the reality of truth of which one does not know. A researcher calls these assumptions, assertions, statements, or hunches, hypotheses and they become the basis of an inquiry. In most cases, the hypothesis will be based upon either previous studies or the researcher's own or someone else's observations.

Hypothesis is a conjectural statement of relationship between two or more variables. It is proposition, condition or principle which is assumed, perhaps without belief, in order to draw its logical consequences and by this method to test its accord with facts which are known or may be determined. A hypothesis is a tentative statement about something, the validity of which is usually unknown.

It is proposition that is stated is a testable form and that predicts a particular relationship between two or more variable. In other words, an investigator thinks that a relationship exists, s/he first states it is hypothesis and then tests hypothesis in the field. Hypothesis is written in such a way that it can be proven or disproven by valid and reliable data – in order to obtain these data that the investigator performs his/her study. A hypothesis may also be defined as a tentative theory or

supposition set up and adopted provisionally as a basis of explaining certain facts or relationships and as a guide in the further investigation of other facts or relationships.

3.2. Characteristics, Functions and Typologies of Hypothesis

Hypothesis has the following characteristics:

- a tentative proposition
- unknown validity
- specifies relation between two or more variables
- Simple, specific, and contextually clear‡
- Capable of verification, it can be tested – verifiable or falsifiable. ‡
- Related to the existing body of knowledge‡
- Operationalize-able
- Hypotheses are not moral or ethical questions*f*
- It is neither too specific nor to general*f*
- It is a prediction of consequences*f*
- It is considered valuable even if proven false

Functions of Hypothesis

- Bringing clarity to the research problem‡
- Provides a study with focus
- Signifies what specific aspects of a research problem is to investigate
- What data to be collected and what not to be collected
- Enhancement of objectivity of the study
- Formulates the theory.
- Enables to conclude with what is true or what is false.

Typologies of Hypothesis

There are three types of hypothesis, namely,

- Working hypothesis
- Null hypothesis
- Alternate hypothesis

Working Hypothesis: The working or trail hypothesis is provisionally adopted to explain the relationship between some observed facts for guiding a researcher

in the investigation of a problem. A statement constituting a trail or working hypothesis is to be tested and confirmed, modified or even abandoned as the investigation proceeds.

Null Hypothesis

A null hypothesis is formulated against the working hypothesis; opposes the statement of the working hypothesis....it is contrary to the positive statement made in the working hypothesis; formulated to disprove the contrary of a working hypothesis.

When a researcher rejects a null hypothesis, he/she actually proves a working hypothesis. In statistics, to mean a null hypothesis usually Ho is used.

For example, Ho-Q = O where Q is the property of the population under investigation. O is hypothetical.

Alternate Hypothesis

An alternate hypothesis is formulated when a researcher totally rejects null hypothesis. He/she develops such a hypothesis with adequate reasons. The notion used to mean alternate hypothesis is H_1 - Q > O i.e., Q is greater than O.

Example:

Working hypothesis: Population influences the number of bank branches in a town. ‰

Null hypothesis (Ho): Population does not have any influence on the number of bank branches in a town.

Alternate hypothesis (H_1): Population has significant effect on the number of bank branches in a town. A researcher formulates this hypothesis only after rejecting the null hypothesis.

After an investigator has reviewed the relevant literature and has a research question, s/he is prepared to be more specific. S/he wants to make one or more predictions for his/her study. Such a prediction is called a **hypothesis.** It is an educated guess regarding what should happen in a particular situation under certain conditions. Not all studies require that researcher tests a hypothesis; some may simply involve collecting information regarding an issue. For those that do have a hypothesis, the hypothesis should derive logically from previous findings or the predictions of a particular theory. Hypotheses should not be based simply

on what the investigator believes should happen. A clear rationale behind the formulation of hypothesis is very necessary.

3.3 Between Research Question and Hypothesis

Research question is the question that an investigator is trying to answer when s/he carries out research on a topic or write a research report. It should be as specific as possible. In some cases, investigator may make two or more research questions to cover a complex topic. For example, if a researcher is studying the effects of sleep on reflexes, s/he might formulate the following research question:

What are the effects of sleep on reflexes?
A similar question might be: *Does sleep have an effect on reflexes?*
Or: *Is maximum reflex efficiency achieved after eight hours of sleep?*

The goal of this research is to find the answer to the research question.
A hypothesis is a statement that can be proved or disproved. A research question can be made into a hypothesis by changing it into a statement. For example, the third research question above can be made into the hypothesis thus:

Maximum reflex efficiency is achieved after eight hours of sleep.

A null hypothesis (abbreviated H0) is a hypothesis to be disproved. The hypothesis above can be turned into a working null hypothesis simply by adding "not". *Maximum reflex efficiency is not achieved after eight hours of sleep.*
Another null hypothesis is: *Sleep does not have an effect on reflexes*

Null hypotheses are used in the sciences. In the scientific method, a null hypothesis is formulated, and then a scientific investigation is conducted to try to disprove the null hypothesis. If it can be disproved, another null hypothesis is constructed and the process is repeated.
As an example, an investigator might begin with the null hypothesis:

Sleep does not affect reflexes.

If s/he can disprove this, s/he finds that sleep does have an effect. S/he might then go to the next null hypothesis:

Different amounts of sleep have the same effect on reflexes. If s/he can disprove this, s/he can go to:
Maximum reflex efficiency is not achieved after eight hours of sleep. And so on. At each stage in the investigation, s/he conducts experiments designed to try to disprove the hull hypothesis

It is important to narrow a question down to one that can reasonably be studied in a research project. The formulation of the hypothesis basically varies with the kind of research project being conducted: qualitative or quantitative.
In qualitative approach, the use of research questions as opposed to objectives or hypothesis is more frequent. Characteristics include the following:

- Use of words-what or how. Specify whether the study: discovers, seeks to understand, explores or describes the experiences.
- Use of non-directional wording in the question. These questions describe, rather than relate variables or compare groups.
- The questions are under continual review and reformulation-will evolve and change during study.
- The questions are usually open-ended, without reference to the literature or theory.
- Use of a single focus.

Quantitative Approach
In survey projects the use of research questions and objectives is more frequent. In experiments the use of hypotheses are more frequent, representing comparison between variables and relationship between variables.
The following characteristics can be observed in quantitative approach:

- The testable proposition to be deduced from theory.
- Independent and dependent variables to be separated and measured separately.
- To be either writing- questions, or objectives or hypotheses, but not a combination.
- Consider the alternative forms for writing and make a choice based on the audience for the research.

4.0 Conclusion

Research questions and hypotheses become "signposts" for explaining the purpose of the study and guiding the research…. A hypothesis is an explanation, tentative and unsure of itself, for specific phenomena about which the investigator has questions. A well-crafted hypothesis very often suggests the best way to perform the research and gives the researcher clues as to his/her research design.

5.0 Summary

This unit was able to present definitions of hypothesis. It identified and discussed the characteristics, functions and typologies of hypothesis. It also made attempt to relate between hypothesis and research questions in academic writing, using practical questions and example. It recognized the various contexts of research methods and how question and hypothesis are used in each.

6.0 Tutor Marked Assignments (TMA)

- Examine the relationship between hypothesis and research question
- Differentiate between working, null and alternate hypotheses.

7.0 References/Further Reading

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Module 3: Research Methods and Designs
Unit 1: Qualitative Research Design
Unit 2: Methods of Quantitative Research
Unit 3: Library/Desk Research
Unit 4: Survey and Experimental Design

Unit 1: Qualitative Research Design
1.0 Introduction
2.0 Objectives
3.0 Main Contents – Qualitative Research Design
4.0 Conclusion
5.0 Summary
6.0 Tutor Marked Assignments (TMA)
7.0 References/Further Reading

1.0 Introduction

2.0 Objectives

3.0 Main Contents – Qualitative Research Design

3.1 Qualitative Method – This is concerned with quality of information. Qualitative methods attempt to gain an understanding of the underlying reasons and motivations for actions and establish how people interpret their experiences and the world around them. Qualitative methods provide insights into the setting of a problem, generating ideas and/or hypotheses.

Qualitative methods are generally associated with the evaluation of social dimensions. The methods provide results that are usually rich and detailed, offering ideas and concepts to inform the research. Qualitative methods can tell how people feel and what they think, but cannot tell how many of the target population feel or think that way, as quantitative methods can. Qualitative Research Methods include the following:

- **Social survey/questionnaire**

Social surveys are a questionnaire-based method of research that can produce both qualitative and quantitative information depending on how they are structured and analyzed. This section focuses on the use of surveys to collect and analyze qualitative data. Many of the issues and considerations are the same as for the quantitative use of surveys, and more detail can be found in the earlier section of this handbook.

Questionnaire surveys can be used in a wide range of settings and to gather a variety of different types of information. You may be evaluating a programme in which a wide range of projects have been commissioned, and want to gather the views of a wide range of project managers, or you may be measuring the impact of an initiative on the business community in a specific geographical area. A small-scale qualitative survey may be conducted to explore in more detail the findings of qualitative research.

Many of the considerations for a social survey are the same as for a quantitative survey, however we define a social survey as one where less statistical rigor is required, where sample sizes are not as large, and with results not expected to be significant of the wider population. A social survey may have a greater focus on collecting rich and detailed qualitative data.

- **Population**

A number of questions about the proposed population for a social survey need to be considered. Such as are there language issues? And what are the geographic restrictions? These are the same issues as for quantitative surveys.

- **Sampling**

The sample is the section of the wider population that will be engaged in the survey. Detailed consideration of sampling still needs to be made even when not striving for statistical significance. It is still important to understand who the respondent is and what the sampling frame is going to be.

- **Format**

A social survey will usually be a cross-sectional survey used to gather information on a small sample population at a single point in time. An example of a cross-sectional survey would be a questionnaire that collects data on peoples' experiences of a particular initiative. However, a qualitative survey could equally

be used in a longitudinal study, perhaps returning to particular individuals over time to measure the impact of an intervention on the direction of someone's life.

- **Questions**

There are a whole range of questions to be asked in relation to survey design, such as: What types of questions can be asked? How complex will the questions be? Will screening questions be needed? Can question sequence be controlled? Will lengthy questions be asked? Will long response scales be used? A social survey will be more interested in qualitative findings, in recording peoples' opinions and perceptions, and therefore will make more use of open questions where respondents can give their own responses to a set question. Open questions will begin with what, why, how, or describe, to elicit rich qualitative information.

- **Administration**

The costs, required facilities, time, and personnel needed to conduct an effective survey are often underestimated, even when it is not on a large scale. There should be an administrative system in place to deal with the questionnaires for when they are returned/completed. This may include numbering the questionnaires, recording what action has been taken with them, entering the results into a spreadsheet/database etc.

Surveys can be carried out by phone, post, email, and website or face-to-face, for detailed pros and cons of these delivery methods see the earlier section on qualitative surveys. In collecting rich qualitative survey data, the most effective method would be via face to face, administered surveys, as the researcher would be able to use prompts to encourage people to give more detailed answers. This does however introduce a bias, which needs to be understood and controlled as much as possible, i.e. by using standard prompts. In qualitative surveys, it is necessary that the interviewer conduct the interview with total objectivity, so that respondents are not influenced by any outside source in their responses. For this reason, interviews should be conducted by well trained and qualified interviewers.

The data that a social survey can produce is very much dependent on how the questionnaire is constructed. However, the data can be very useful for providing an overall picture of the way in which a project or programme is being implemented and how effectively it is impacting upon its target audience. Qualitative data output will be in a text, audio or picture format, and each answer

may be very different from another. This can make collection of data more difficult, and a way of collating data needs to be considered early in the process.

- **Analyzing the Social Survey/Questionnaire**

The Quantification of Qualitative Survey Data

Surveys can be analyzed by collating the frequency of responses to each of the questions on the survey form. This can be done manually using a "frequency table", which can be easily set up on an Excel spreadsheet to analyze descriptive statistics.

QSR NUD*IST and NVIVO are qualitative data analysis packages, which enable non-statistical information from interviews, group work, observations, audio, video, pictures or documents to be analyzed according to chosen criteria. For example, it is possible to use the package to 'pull out' all material relating to key words or phrases (e.g. neighborhood renewal) and then sub-divide the data into more specific areas of analysis (e.g. statement of use, problems, projects). This is a powerful piece of software that can provide clarity to wide range of often complicated written or media materials.

Interviews

One of the most popular and frequently used methods of gathering information from people about anything is by interviewing them. It is also the most popular method used within the social sciences. There is a continuum of formality around interviewing and it covers a multitude of techniques, from informal "chats" maybe arranged as "vox-pops" right through to highly structured, formal interviews, taped and transcribed. The different types and styles of interview elicit very different types of information. Conducting interviews is an interpersonal process and as an investigator you must be very aware of your own behaviors and assumptions in the context. Interviews are not "neutral" social spaces and you must be respectful and maintain appropriate boundaries at all times.

Interviews are a qualitative method of research often used to obtain the interviewees' perceptions and attitudes to the issues. The key issue with interviewing is making decisions about who are the key people to talk to and what type of interview are you going to use.

Interview Style

There are three clearly identifiable styles of interview- structured, semi-structured and unstructured:

Structured - Follows a set of specific questions, which are worked through systematically. This type of interview is used when the researcher wishes to acquire information where the responses are directly comparable.

Semi-structured - This is a more commonly used interview technique that follows a framework in order to address key themes rather than specific questions. At the same time it allows a certain degree of flexibility for the researcher to respond to the answers of the interviewee and therefore develop the themes and issues as they arise.

Unstructured - This method of interview does not follow any predetermined pattern of questions or themes. Rather, the interviewer will address the issues as they emerge in the interview. The method is useful when the researcher wishes to explore the full breadth of a topic.

Interview Type

These are some of the types of interviews:

Fact finder - This type of interview is used to obtain specific information from an interviewee and usually includes structured or standardized interview questions (the wording of the questions and the order in which they are asked is the same). It is used when some information is already known and there is a need to gain a more in-depth insight. An example of when a fact finder interview would be appropriate is when interviewing a project officer as part of an evaluation of their project. Quantitative (or 'hard') information is usually already known (such as outputs and funding data), therefore the interview could be used to discover qualitative information that the hard data cannot portray, such as the 'softer' outcomes of the project.

Idea generator - In many respects, this type of interview is the opposite of the fact finder interview. It is used when the interviewer has no preconceptions about what might be discovered over the course of the interview and results can be used to set the parameters or framework for the study. Interview questions are loosely structured allowing maximum flexibility to explore a range of issues. Idea generator interviews are usually applied at the start of a research project in order to discover and explore issues from a particular group or community. For example, in order to develop a community cohesion strategy, idea generator

interviews may be used to find out what community cohesion means to different groups in the community.

Exploratory - These are the most frequently used type of interview as they are relevant to most types of research project. They are usually conducted with representatives that have a strategic role to play in the research. These types of interview require some degree of prior knowledge about the research subject as they are about testing hypotheses, making connections between other elements of the research, ensuring the strategic fit and progressing the findings of the research forward (e.g. senior officials from a local authority may be interviewed using this method in order to find out future plans and priorities and how they fit in with others' plans and priorities).

Experiential - This type of interview aims to draw out people's feelings, perceptions and experiences over a specific period of time (e.g. the duration of a regeneration program or project). This provides rich, in-depth material about how the subject under investigation has affected an individual's life on a personal level. Experiential interviews may be used to elicit information from people who have benefited from a community project or who live in an area that has received regeneration monies. Therefore these interviews can map the feelings and impressions that any changes have made and add a 'story' to the quantitative or 'hard' data.

Face-to-Face and Telephone Interview

Interviews are typically used when seeking the views and opinions of people with a specific perspective. They can be conducted by phone or face to face. They offer particular advantages in terms of acquiring information, which might not otherwise be shared in a group setting.

The nature of the data will vary depending on the specific type of interview undertaken by the researcher. Some people prefer to take their own notes, others prefer to tape and transcribe verbatim, a lot depends on the preference of the interviewer.

The information obtained from interviews can be used in two key ways:

Thematic generation - identifying and drawing upon common themes across the interviews;

Citation - directly quoting parts of the interview in the main body of the report.

Quotes have to be referenced properly. For example, you may wish to refer to the title of the interviewee in identifying who made the quote (e.g. project manager). Remember that some information provided during interviews may be confidential. In such cases, you should only refer to the broad theme or argument being made rather than identifying who said it.

Discussion Groups

Discussion groups (also known as 'focus' groups) are an example of a technique imported into social research from market research. They have been widely used in political circles to "road test" policies. A discussion groups consists of a number of individuals you invite to discuss their views on a particular topic, typically involving between 6 and 12 people, which is conducted specifically to get a group of people's views on a subject. Groups can be constructed in order to attempt to recreate demographics.

Discussion groups are best applied when rich, in-depth material from a number of people is required. Being part of a group often creates a more relaxed atmosphere than a one-to-one interview. Therefore, information gathered from discussion groups, is often more varied than if participants had been interviewed on a one-to-one basis. Another advantage of using discussion groups, as opposed to one-to-one interviews, is that they provide in-depth information from a number of individuals simultaneously, making it a time effective method of gathering data.

Practical Issues

Discussion groups usually last one hour or so and include between six to twelve participants. Participant recruitment is very important and can be done through a range of methods, including client contact lists, existing networks and databases, advertising in appropriate public places and via the media, and 'hanging around' places asking people to join in. These varied methods of recruitment mean that discussion groups can be targeted at different participants, including groups traditionally considered 'hard to reach', such as young people and people from Black and Minority Ethnic (BME) backgrounds. Incentivizing participants for their time requires some ethical consideration. However, expenses for travel should always be provided, as well as food and sometimes vouchers or cash payment.

Deciding on the make-up of the groups - identify the key groups and individuals that you need to speak to depending on what you need to find out.

Identify the individuals you need to contact. You may know of people directly or you may require the assistance of others to provide you with a 'route in' to finding participants (eg project staff, community champions). If this is the case, simply outline what you intend to do and enquire as to who they think the best people to involve in the focus group would be. However, be aware that you should try to attract a range of participants with different views and experiences and that relying on one person to find all of your participants may limit this taking place.

Arranging a location - ideally the discussion group should be held in a location that is familiar to the participants, as this familiarity reduces the anxiety of the participant. The next step is to contact all potential participants to invite them to the group, tell them what it is about, and inform them of the time, location etc. Ensure that you have more contact names than you need for the discussion group as some people may not wish to be involved.

Asking Questions

The types of questions that could be asked during a discussion group can be similar to interview questions, such as fact-finding, idea generating exploratory and experiential. The main rationale for choosing to undertake group discussions as opposed to interviews should not be the type of questions you are asking, rather to whom you are asking the questions. Within group discussions having things to show or to demonstrate can really help the discussion as people interact with each other and the stimulus provided.

Facilitation

Focus group facilitation is a very specific skill, groups are notoriously susceptible to dynamics and can be quite difficult to "control", consequently if your requirements or parameters are very tightly defined then a focus group may be inappropriate. Some people find such situations intimidating and do not contribute as much as they would in a one-to-one situation whilst some people may affect the dynamics by dominating proceedings.

• In preparing for the discussion, it is worthwhile having a shortlist of questions, ideas and thoughts on the topic. The list could be useful in starting the discussion and ensuring it flows continuously.

• Ask relevant and open questions so that the discussion has breadth. It is important that the group has a discussion rather than a question and answer session. Therefore try to steer clear of questions that are narrow and can be answered easily without discussion.
• Encourage group interaction and participation. All members of the group should make a contribution to the discussion. Try to avoid just one or two people dominating.
• Pursue, capture and develop emerging issues. A good facilitator should spot issues that are emerging in the discussion and try to get the group to discuss them in more detail.
• Try to ensure that the discussion remains focused on the key themes or issues.

Recording the discussion

This can be done either through the use of a tape recorder or by taking notes. Tape recording the discussion is useful in ensuring that no important points are missed and enables the facilitator to focus on guiding the discussion rather than taking notes. However, you will need to make sure that you have a good quality tape recorder in order to pick-up the group discussion. A good alternative is to have a note-taker sit in on the discussion.

Discussion groups are used when seeking the views, perceptions and opinions of people in an open forum. They are often used when more in-depth information is required than that which can be gained from a questionnaire. Compared with interviews, they can be used when confidentiality is not an issue and where it is felt that participants are more likely to contribute within a group setting rather than on a one-to-one basis. They can often be used to explore issues emerging from other types of research (eg interviews, surveys) in more depth.

The discussion group produces qualitative data about thoughts, views, experiences etc.

Use the information from interviews to identify the relevant themes that emerge from the discussions to put into your evaluation report. There are also statistical packages that you can use to analyze this type of data including:

NUD*IST: a qualitative data analysis package which enables non statistical information from interviews, group work, observation etc. to be analyzed according to chosen criteria. For example, it is possible to use the package to pull out all material relating to key words or phrases (eg neighbourhood renewal). If recorded, you may not need to transcribe the whole discussion but just make

relevant notes from the tape. This will enable you to quote directly from the discussion within your evaluation report, remembering to adhere to any issues of confidentiality.

Workshops

Workshops are a group-based method of research in which there is an emphasis on activity-based, interactive working. The focus is on everyone participating and undertaking the work. Therefore, when using this type of research technique, the researcher acts as a facilitator, rather than leading the discussion or activity.

There are a variety of reasons why it would be appropriate to hold workshop sessions, including:

Raising awareness (e.g. about a new funding stream and how to apply);

Capturing views and information (e.g. about local service provision);

Building consensus (e.g. to take forward a draft strategy or action plan);

Developing skills and capacity (e.g. on how to implement emerging government policy)

Planning

Workshops need to be well planned, this will often involve establishing the date/time/location of the workshop as early as possible; inviting potential participants to the workshop by letter/email and requesting confirmation of their attendance; distributing background papers and the objectives/required outcomes of the workshop in advance; and preparing practical aids for use in the workshop itself (e.g. photos, maps, flipcharts, presentations, models).

Workshops vary in size according to the nature of the subject, the specific group involved and the required outcomes of the session. Workshops can contain as few as 4 participants and as many as 25. The length of the workshop will vary depending on factors such as the planned activities, the time available and the required outcomes. Workshops can range in duration from one hour to full day sessions. However, it is important to be aware of the time pressures under which people work and to ensure that the scheduling and duration of the workshop(s) is appropriate.

Interactive Sessions

The emphasis during workshops is on participation. This can be encouraged through stimulating debate (e.g. posing questions) and encouraging collaborative

working (e.g. group activities). A variety of mechanisms can be employed to encourage interaction, including:

- Brainstorming;
- Model making;
- Physical and mental mapping;
- Ranking and prioritization;
- Drawing and photography;
- Role play.

The techniques selected need to be tailored according to the specific group of participants (e.g. strategic decision makers, project staff, young people) and the outcomes required.

Outcome Focused

It is imperative that workshops have clear objectives and are grounded in the required outcomes of the session. Key to the achievement of this are the pre-workshop activities that are undertaken to design, plan and prepare for the workshop itself (see above). The emphasis on outcomes is important for all concerned – it enables a gathering of information, perceptions and responses to contribute to the overall research, whilst enabling participants to understand the focus of the session, which, in turn, allows them to play a full role. If your participants understand your aims for the workshop, then the session is likely to be more productive.

The output of a workshop will be dependent on the types of activities undertaken, but may include flip chart material, drawings and diagrams and lists of factors, possibly ranked. It is important that all materials and notes from the workshop are collated, analyzed and fed into the research findings.

QSR International's NUD*IST & NVIVO computer packages enable non-statistical information from group work, observations, audio, video, pictures or documents to be analyzed according to chosen criteria. These are powerful pieces of software that can provide clarity to a wide range of often complicated written or media materials (see section on qualitative survey analysis).

Observation

Observation, sometimes referred to as "participant observation" or "ethnography" is the key method of anthropology and in itself can consist of a mix of

techniques; informal interviews, direct observation, participation in the life of the group, collective discussions, analyses of personal documents produced within the group, self-analysis, and life histories, notes, diaries and transcripts are often kept and the observation method can generate a lot of written material which the investigator must synthesize.

Participant observation is usually undertaken over an extended period of time, ranging from several months to many years. An extended research time period means that the researcher will be able to obtain more detailed and accurate information about the people he/she is studying.
Observation is more appropriate when seeking to uncover the folowing:

Observable Details
Like daily time allotment. For example, the popular management consultancy technique of the "time and motion study" is a version of observation. The investigator watches the activities and actions of people involved in a process and works out the specific time allocation devoted to every single step, with the objective of improving efficiency by cutting out unnecessary or time consuming steps.

Group Dynamics
If the subject of your enquiry is a collective, in this context more likely to be a partnership board or steering group rather than a tribe or sub-culture, then close attention to the dynamics of the interaction between the people involved can be very illuminating. The observation method highlights interpersonal relationships and the investigator can reflect upon social proximity and distance, observe relationships and explore body language and other behaviors.

More Hidden Details
Like taboo behavior, observation can be effective in exploring or exposing secrets or the underlying realities of situations, researchers can discover discrepancies between what participants say – and often believe – should happen (the formal system) and what actually does happen, or between different aspects of the formal system; in contrast, a one-time survey of people's answers to a set of questions might be quite consistent, but is less likely to show conflicts between different aspects of the social system or between conscious representations and behavior.

Observation as part of a mixed methods approach

Observation may be appropriate as a part of your research strategy but it is unlikely that it would "stand alone" in the research contexts that we have been describing. It is also worth remembering that it relies very heavily upon the judgements, assumptions and prior knowledge and experience of the observer themselves.

Reliability versus Validity

Participant observation (whether overt or covert) is not the most reliable research method. Such studies, by their very nature, are impossible to repeat and reliability can be further questioned in terms of the extent to which the presence of the observer actually changes the behaviour of those being studied. As soon as you do or say anything at all, you have slipped from the role of observer to participant, this boundary can be very hard to maintain.

Participant observers study people in their natural environment, gaining a depth of insight into behavior that comes not simply from close, detailed, observation but also from the researcher's own experiences within the group being studied – a technique that provides first hand insights into why people behave as they do. Participant observation does not prejudge issues and events (in the way a questionnaire may, for example) and, for these reasons it is possible to argue that such a method provides data that has a high level of validity.

Skills Required

Participant observation requires a great deal of skill and commitment from the researcher. The success or failure of the research will hinge on such factors as the ability to fit-in with the people being studied and the ability to communicate with groups members on their level and terms. It will also, at different times, require tact, clear and careful observation, the ability to separate the role of participant from that of observer and so forth. In other words, before committing yourself to participant observation you need to be certain you have the time, resources and skills required to carry this type of research.

A key feature of participant observation is that data should be collected in ways that cause as little disruption as possible to the ordinary activities of the research context. The recording of information largely depends on the research situation.

Field notes are generally kept and sometimes it is possible to use tape recorders and video recorders. Whichever methods of recording information are used it is important to be detailed and to devise a system that allows easy retrieval of information.
Analysis and interpretation of data is undertaken in a similar way to analyzing and interpreting data gathered by other qualitative research methods.

Visual Techniques
Visual techniques in social research offer an interesting, stimulating and interactive approach to gathering information. They are appropriate in a variety of situations, as they fulfill numerous functions. Visual methods such as drawing, painting, video, photography and hypermedia offer increasingly accessible and popular resources for research.

Types of visual research that you might want to consider:
Cartoon Test – presented with a picture of a cartoon depicting a specific situation, the consultees are then asked what they think the character would do, say or think in response to another character.

Completion Technique – using the cartoon test above, the character is shown thinking or saying something but the sentence is left uncompleted. Participants are given the opportunity to make suggestions to complete the sentence.

Collage/Concept boards – uses a range of images that can be used to represent or describe the subject for discussion (e.g. services, project, issues etc). In this way, the participants can identify the subject with a range of feelings and moods. There
are two ways to approach this technique; either the participants respond to prepared boards or they construct their own collage or concept boards.

Ideas Board – this board invites participants to jot down their ideas on post-it notes and add them to the board which is grouped by theme.

Mind Mapping – visually representing information in an interesting format without the limits or formality of standard written text. The open flowing format

appears to support the natural thinking process, which is thought to go on randomly and in a nonlinear way.

Money-Well – an interesting way of asking participants to prioritize future actions or developments. Participants are given a certain amount of fake money, which they can place on the options displayed.

Graffiti or Ideas Wall – a strip of paper is hung on the wall accompanied by shapes, such as speech bubbles. The participants are able to write comments about a research topic or discussion statement.

Photographic Research – consultees are either provided with a series of photographs by the researchers or given a disposable camera or mobile phone and asked to take their own. Depending on the nature of the research project, these photos might include depictions of the local physical environment and/or reflect how consultees view their community, including what they like and dislike about it. The use of photographs in research can be used to evoke feelings or trigger memories that lead to perspectives and explanations that would not have been unlocked using a more conventional research technique.

Film and Video - video cameras are particularly well suited as data gathering technologies for ethnography, participant observation, oral history, life history, etc, preserving things that are not preserved in even the best researchers' field notes. Similarly, tape recordings preserve audible data not available in even the most carefully annotated transcripts.

Deciding to conduct visual research will be dependent upon the type and scale of the research that you are undertaking. It may be appropriate to conduct this type of work at the start of the research process as a way of highlighting issues to be examined further during the course of the process, or it may be something that is developed as part of a blend of evaluation methodologies. Visual techniques can be used in many settings, as an alternative to more traditional methods and may be particularly useful as:

- A method for effectively engaging hard to reach groups within areas (e.g. young people). Pictures and photographs can help evoke opinions and allow the use of imagination in expanding on a scene.

- Offering an alternative to traditional discussion groups, yet still being able to draw out the rich variety of qualitative information from participants.
- For use within workshops, providing a task based activity to get members of a group working and thinking together.
- A method of producing tangible outcomes at the end of the research process (e.g. series of community generated impacts illustrating how local people view the local area).
- Consider who should be involved in this type of visual research and that the technique is appropriate for the type of audience you are seeking ideas and opinions from.
- Ensure that research is conducted in a neutral venue where people will feel comfortable and able to share their opinion freely.
- Think about how the visual research will link into the rest of the methodology and how you will use it to inform the evaluation process.
- If generating photographic or film media as part of the research, those people photographed and filmed need to give their consent for their images to be used for the purposes of research.

The interesting thing about data produced through visual research is that you produce visual data, which can be used to illustrate your research and provide a very immediate and real way of demonstrating how a project or programme has impacted upon local people and communities.

For a more detailed analysis of visual materials, QSR NVivo and Xsight are qualitative research software programs that help to manage, shape and make sense of unstructured information produced by visual techniques. These programmes have purpose built tools for classifying, sorting and arranging information and the software allows you to analyze visual data and discover patterns, identify themes, glean insight and develop meaningful conclusions. Transana is an alternative, inexpensive and open source software package for professional researchers who want to analyze digital video or audio data.

Key Points of Qualitative Research Methods

The following table provides a breakdown of the key features of the categorization of research method and data in qualitative method:

Aim	The aim is a complete, detailed description of what is observed.
Purpose	Contextualization, interpretation, Understanding perspectives
Tools	Researcher is the data gathering instrument.
Data collection	Unstructured
Output	Data is in the form of words, pictures or objects
Sample	Usually a small number of non-representative cases. Respondents selected on their experience.
Subjective	Subjective - individuals' interpretation of events is important
Researcher Role	Researcher tends to become subjectively immersed in the subject matter.
Analysis	Interpretive

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignments (TMA)

7.0 References/Further Reading

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Unit 2: Quantitative Research Design

1.0 Introduction
2.0 Objectives
3.0 Main Contents – Quantitative Research Design
4.0 Conclusion
5.0 Summary
6.0 Tutor Marked Assignments (TMA)
7.0 References/Further Reading

1.0 Introduction

Quantitative research is defined as a systematic investigation of phenomena by gathering quantifiable data and performing statistical, mathematical, or computational techniques. Quantitative research collects information from existing and potential customers using sampling methods and sending out online surveys, online polls, questionnaires, etc., the results of which can be depicted in the form of numerical. After careful understanding of these numbers to predict the future of a product or service and make changes accordingly (Questiopro).

2.0 Objectives

3.0 Main Contents – Quantitative Research Design

As the name suggests, quantitative research design is concerned with trying to quantify things; it asks questions such as 'how long', 'how many' or what is the 'the degree to which'? Quantitative methods look to quantify data and generalize results from a sample of the population of interest. They may look to measure the incidence of various views and opinions in a chosen sample for example or aggregate results.

Methods of Quantitative Research Design

Quantitative methods are research techniques that are used to gather quantitative data, data that can be sorted, classified, measured. The following section outlines the core quantitative research methods used in humanities and social research.

Quantitative Survey Method

Surveys are a popular method of collecting primary data. The broad area of survey research encompasses any measurement procedures that involve asking questions from respondents. They are a flexible tool, which can produce both

qualitative and quantitative information depending on how they are structured and analyzed. However, we focus here on the quantitative use of surveys.

This method is used when researcher needs to generate primary data from a large number of sources to answer research questions. Surveys are a useful means of gathering data from businesses, community organizations and residents, and survey research is one of the most important areas of measurement in applied humanities social science research. However, health warnings need to be attached to the use of quantitative surveys and careful consideration needs to be taken before embarking on any large-scale survey.
In undertaking a survey it is important that researcher understands who he/she wants to survey, how to select them, how to survey them, what to ask them and how to organize the task. The following section outlines some key considerations that need to be made before embarking on a large-scale survey:

Population
Some populations will be easy to count. In a given geographical area there will be secondary data sources that will give researcher a population count (Census), in a membership organization, there may be a list of all members, however in a newly arrived ethnic community such as the recent arrivals of Polish and Eastern European communities there is less chance that researcher can obtain a reliable count of the population. A bias in survey results can occur if the survey sample does not accurately represent the population. Having a count of the population is also important in order to establish the significance of results to allow a generalization to the population as a whole.
Respondents may have varying capacities for being able to complete **written surveys or questionnaires.** While telephone and street surveys do not require the respondent to be able to read or write in English, postal surveys involve respondents completing the survey or questionnaire themselves. Researchers should consider the offer of help in self-administered surveys for respondents to complete a form either in person or over the telephone; this will help address potential language or basic skills issues. If surveying an ethnic minority population, researcher may wish to translate questionnaires into community languages, or have people who speak the communities' language to assist where necessary.

The geographic spread of the population to be surveyed will determine the method used for collecting data. If the researcher is surveying people from a particular location or organization, it may be possible to conduct a survey using an interviewer, however if he/she has a population sample that is geographically dispersed he/she would look to use a different method, such as a telephone or postal survey.

Sampling

The sample is the section of the wider population that will be engaged in the survey and sampling is the process of identifying who researcher will aim to contact from that population. The word 'population' is used to describe the target group, and while this may be the national population as a whole, it may also be a smaller group such as lone parents, or business members of a Chambers of Commerce in a particular location. Detailed consideration of sampling needs to be made to ensure the validity of results, and the following issues need consideration:

The respondent, the sampling frame, the likelihood of response being a problem and the statistical significance.

- The Respondent

  The first thing researcher needs to understand is who the respondent is going to be. This is the person that will provide the data the researcher is asking for. If the survey is distributed amongst households, who in particular will be filling in the survey? Does the researcher want to specify who the survey is to be completed by? And does the researcher understand why he/she is specifying this person? The same is true when surveying organizations or groups. A survey will have much greater success if it is directed to the right respondent. Identifying the person best suited to completing a survey will help to increase the response rate and generate more accurate data.

- The Sampling Frame

  A sampling frame is a list of members of a population from which members of a sample are selected. 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. Once the researcher has an established sampling frame,

depending on its size he/she may need to adopt a sampling technique to extract final sample. For example random sampling, simple random sampling or stratified sampling technique may be used.

- The Likelihood of Response Being a Problem
  With any survey, researcher needs to look at the profile of the people who did responded and satisfy him/herself that they are about the same as the people who did not respond – and also, that they are about the same as the overall population that researcher is sampling. If the researcher sends out a survey to a population, which is 50% male, and 50% female, but responses turn out to be 80% from females then the findings will not represent the target population. Response rates can be low for surveys, under 20% for a postal survey is not uncommon.

- Statistical Significance
  Understanding population, sample size, and response rates are important for calculating interval and confidence levels, which are vital for determining how many people researcher needs to interview in order to get results that reflect the target population as precisely as needed. Online calculators may be used to establish this type of information, but it is important to understand the terms and the reasons for doing this.

Survey Format

It is important to understand what format of survey the researcher is looking to undertake. There are broadly two survey formats that may be used and it is important to understand which one the researcher is using:

Cross-sectional surveys are used to gather information on a population at a single point in time. An example of a cross-sectional survey would be a questionnaire that collects data on peoples' experiences of a particular initiative or event. A cross-sectional survey questionnaire might try to determine the relationship between two factors, like the impact of a programme of activity on the level of benefits claims for example.

Longitudinal surveys gather data over a period of time. This would allow analysis of changes in the population over time and attempt to describe and/or explain them. The three main types of longitudinal surveys are

trend studies, cohort studies, and panel studies. A longitudinal study will also seek to determine the relationship between factors, but the difference is that the examination will be of a change in factors over time, so for example the relationship between health and employment.

Questions

There are a whole range of questions to be asked in survey design, such as: What types of questions can be asked? How complex will/can the questions be? Will screening questions be needed? Can question sequence be controlled? Will lengthy questions be asked? Will long response scales be used? Here we outline the main types of questions used in quantitative surveys:

- *Closed questions* – these have a number of possible answers in a list for respondents to choose from Usually, closed questions include an 'other' option to enable respondents to add any categories that have been omitted;

- *Ranking scales* – these are most commonly used when trying to ascertain the level of importance of a number of items. A list of choices are provided and respondents are asked to put them in order;

- *Sliding scales* – these are used to discover respondents' strength of feeling towards an issue. Respondents are given a series of statements and asked how much they agree or disagree with the statement by using a sliding scale where numbers represent different strengths of feelings. For example, 1 = strongly agree and 5 = strongly disagree.

- *The need to write questions that are clear, precise, and relatively short*
  Because every question is measuring something, it is important for each to be clear and precise. Researcher's goal is for each respondent to interpret the meaning of each survey question in exactly the same way. If your respondents are not clear on what is being asked in a question, their responses may result in data that cannot or should not be applied in survey findings.

- *The need not use "loaded" or "leading" questions*.

A loaded or leading question biases the response given by the respondent. A loaded question is one that contains loaded words. Loaded or leading questions may hint to the respondent how researcher expect the question to be answered, for example 'Do you think your neighborhood is still run down?', by including the word 'still' a bias is introduced as it presupposes that the respondent thought the area was previously run down.

Ambiguous or compound questions can be confusing, thereby leaving respondents unsure as to how to answer. Compound questions are ones that ask several things which might require different answers, for example 'Would you like to see more community support officers on the streets, allowing a reduction in investment in CCTV?'. The respondent may wish to provide multiple answers to this question, answering yes to having more community support officers, but disagreeing with the reduction in investment for CCTV.

Administration

The costs, required facilities, time, and personnel needed to conduct an effective survey are often underestimated. The most common resource underestimated is time. Researcher needs to factor in time to pilot or test survey, time to deliver survey, time to give respondents to complete surveys and then have them returned, and he/she also needs to factor in the time required to analyze surveys. When conducting a large scale survey, inputting data to generate analysis can be very time consuming. The best approach is often to work up timeline backwards from when the researcher needs results, calculating the time required for each step, this way he/she can establish when things need to start by.

Selecting the type of survey that a researcher is going to use is one of the most critical decisions in many humanities and social research contexts. In a similar way to interviews, surveys can be delivered in a variety of ways including the following:

- Postal surveys;
- Telephone surveys;
- Email/internet surveys;
- Street surveys/administered surveys.

The delivery method for any survey should be carefully considered, and in many ways will be decided by consideration of factors listed above, such as ***population,***

sample size and respondent. Having a good understanding of these will inform the best method of delivery. For example, if the survey is to be distributed to a particular local authority officer role across the country, then a postal or email survey would work best, as it is likely there will be over 350 in the population, geographically dispersed and literate.

It is also extremely important to conduct a trial run or pilot of any survey, as those that have designed a survey and are close to its subject, may take for granted that the questions and layout will work as a survey with the wider intended population. A survey may be piloted with colleagues or friends that have the same level of involvement in the subject you are surveying, as the wider intended population. Feedback should be sought on the ease upon which the survey can be followed and completed. A pilot survey may also be conducted with a subset of the selected sample. This would give opportunities to detect and resolve problems before they obscure or distort the result of the wider survey.

Survey Monkey

Survey Monkey is an online survey tool that enables people of all experience levels to create their own surveys quickly and easily. It has an online survey designer, which contains many questions and formats. It collects responses and analyses them in real time, producing charts and graphs with available information. All responses can be downloaded in a variety of formats to allow further statistical analysis in computer packages such as SPSS. www.surveymonkey.com

The Output

Survey data is the question answers, such as ‘yes’ or ‘no’ or perhaps a number, where a person has ranked a question on a scale. The survey data output will depend on the way in which the survey was constructed, it will be shaped by the survey questions asked, the format of the survey itself and the method in which data was collected. For example, if the survey was completed by the respondent, in a written form, then researcher will have a collection of written documents which require analysis of the question answers. If the survey has been completed by a researcher, then a more sophisticated method of data collection may have occurred, like tallies and counts of responses. If using an internet or email survey, a computer programme may have collected the data in a format which can easily be analyzed. Consideration of the output needs to be made at the outset of the

process, and time considerations need to be given as to how this data will be collected and analyzed.

Analysis

Before researcher can input data in a computer program or application, he/she will need to undertake a process of coding. This involves assigning a code (often numeric) to each possible answer in the survey. So if question 1 in the research survey asked the gender of the respondent, then the researcher may seek to code the answer 'male' with the number 0, while he/she may seek to code the answer 'female' with the number 1. Establishing these 'codes' on the distributed questionnaire can help at data entry time, but obviously has the downside of putting numbers on the questionnaire that are of no relevance to the respondent and therefore could make the questionnaire look more confusing than it needs to.

Web Based Programs

Internet based survey tools can distribute survey via email and also collect results, often allowing researcher to view results as they are collected in real-time. The results can be downloaded through live graphs and charts of the responses, and often filter the responses and dig down to get individual responses. While this offers significant benefits, there needs to be careful consideration of the pros and cons of email or internet surveys and whether this method of collection suits the population the researcher is targeting.

Excel Worksheet

Microsoft Excel Worksheet is useful for data summary, presentation, and for other basic statistical analysis. The program provides a set of data analysis tools called the Analysis ToolPak which researcher can use to save steps when he/she develops complex statistical analyses. The researcher provides the data and parameters for each analysis and the tool uses the appropriate statistical macro functions and then displays the results in an output table. Some tools generate charts in addition to output tables. The Analysis ToolPak is not loaded by default, instructions for installing it, along with guides on how to use it can be found on the Microsoft website.

Statistical Package for Social Scientists (SPSS)

SPSS is among the most widely used program for statistical analysis in humanities and social science. This is a data analysis package for quantitative research. It is particularly useful for the analysis of survey data as it covers a broad range of statistical procedures. There are other packages available such as *SAS, Stata or Minitab*, however all are expensive to purchase, especially if only to be used for a one off survey.

Secondary data collation and analysis

This method refers to the review of existing information, and in the quantitative context may involve the manipulation of statistical data. It differs from primary research techniques in that the researcher does not collect the data directly and cannot control the actual data collected, but can bring to bear new insights through interpretation or presentation. Managing large data sets and large amounts of quantitative material does require some specialist skill.

The collection of secondary data can be an important first stage. The main use for this sort of information is that it can provide a starting point for an evaluation or analysis to gain some background knowledge and understanding. Secondary data collection is also useful for contributing to the analysis and commentary throughout a research report.

There are a number of different types of secondary information. Some of the most common types are identified as follows:

Official statistics - This refers to national data sets relating to issues such as population, employment, unemployment and businesses. Much of this information can be acquired from the Office for National Statistics;

Other statistics - A wide range of other types of numerical data can be drawn on for evaluation purposes. For example, project monitoring information of beneficiaries, funding information, service data etc.

Key Principles Useful for Secondary Data Analysis

There are a number of key principles useful to follow when collecting and analyzing secondary information. They include the following:

1. Thinking about the key issues and topics that need to be addressed. Having a clear idea of what information is required will make the collection of secondary information a lot easier;
2. Searching for the information and data sources;

3. Having collected the information, the next step is to read it and analyze it;
4. Collating information from secondary data into key headings;
5. Ensuring that all information is properly referenced and that it is clear where the information has come from.

Expected Outputs

The information gathered from secondary data analysis can produce various outputs depending on the type of information collated and reviewed. Some of the most common types include **statistics, data tables and charts and maps.** The information may show how changes have occurred over time in a particular area. It could also be comparative, which allows the researcher to make comparisons between a number of different areas. Secondary data can however, **be analyzed** using the same techniques as for primary data.

Case Study: Using secondary data to create a baseline

Baseline assessment refers to a number of headline indicators or statistics for a specific area at a particular moment in time. e.g. the percentage of unemployed economically active males in Nigeria in 2002. Baselines are particularly useful when measuring the impact of a regeneration project or program, as by knowing what the area was like before it commenced. It enables an evaluator to gauge the extent the project/program has changed an area. Working with baseline data relating to local social, economic, cultural and environmental conditions is a core feature in many policy interventions.

In developing and updating a baseline, researcher may need to:

- access secondary data for establishing and up-dating baselines;
- develop baselines retrospectively. This entails deciding key indicators and collecting data for a period of time in the past;
- revise existing baseline indicators to ensure they reflect local priorities and are smart;
- recommend new baseline indicators where gaps exist and devising entirely new baseline assessments where one exists;
- review and aligning baseline indicators with those used nationally whilst maintaining a local focus;

- identify the best sources of data, frequency of updates and lead responsibilities for collection to aid future baseline updates;
- collect and collate primary data to inform the baseline assessment.

Statistical Analysis

Statistical analysis is a mathematical method of interrogating data. This is done by looking for relationships between different sets of data. Statistical analysis can be complex. There are two types of statistics:

Descriptive statistics: numerical summaries of samples (what was observed);

Inferential statistics: from samples of populations (what could have been or will be observed).

It is important to understand which type of statistics researcher is working with before embarking on analysis.

The general idea of statistical analysis is to summarize and analyze data so that it is useful and can inform decision-making. Researcher would analyze descriptive statistics he/she wanted to summarize some data into a shorter form, whereas, she/he would use inferential statistical analysis when the researcher is trying to understand a relationship and either generalize or predict based on this understanding. Statistical analysis, through a range of statistical tests, can give researcher a way to quantify the confidence he/she can have in inferences or conclusions.

Statistical analysis should only be used where there is a clear understanding of the reasons for doing so. The use of statistical tests will provide researchers with valuable findings when they know how to interpret the results and use them to inform their research.

What to Consider in Statistical Analysis: Variables and Inference

Variables

A variable is any measured characteristic or attribute that differs for different subjects. Quantitative variables are measured on an **ordinal, interval, or ratio scale**, whereas qualitative variables are measured on a nominal scale. There are a range of variables that need to be understood, dependent/independent, controlled/continuous/discrete in the application of statistical tests. The

independent variable answers the question “What do I change?”, the dependent variable answers the question “What do I observe?” and the controlled variable answers the question “What do I keep the same?”.
A variable which can have any numerical value is called a continuous variable (e.g. time). A variable which can only have whole numbers (integers) is called a discrete variable (e.g. the number of people in a group). It is important to understand the variable researcher has for analysis of data in statistical packages such as SPSS.

Inference

If working with inferential statistics, researcher needs a sound understanding of the population and sample. Inferences (conclusions) are made about a population from a sample taken from it, therefore it is important that population and sampling is well understood, as any error will influence inferences (conclusions). In some situations researcher can examine the entire population, then there is no inference from a sample.

Expected Output from Statistical Analysis

The output of statistical analysis will depend on the statistical test that researcher applies to data; a detailed understanding of the test is required to be able to interpret the results. The output will most probably be further tables of data, with a number of things being reported. It is important to understand the information researcher needs from a table of results, as he/she may only require a single figure, but be presented with a range of information which may be confusing if the researcher is new to statistical analysis.

How Statistical Analysis should be Done

Microsoft Excel Microsoft Excel includes a collection of statistical functions, within the add-on Data Analysis ToolPak. Excel can analyze descriptive statistics at a simple level and when used effectively, can be very useful in the exploratory analysis of data, cross tabulations (pivot charts), viewing data in graphs to detect errors, unusual values, trends and patterns and summarizing data with means and standard deviations. However, Excel is of very limited use in the formal statistical analysis of data unless researcher’s experimental design is very simple. The Analysis ToolPak is also no easier to use than more formal statistical packages.

Formal Statistical Packages (SPSS, SAS, Stata)

Inferential statistics are more often analyzed in specialist statistical packages such as SPSS which provide greater functionality compared to Excel. The package used by the researcher often depends on which package the researcher is familiar with and has access to. These formal statistical packages can summarize data (e.g. frequencies), determine whether there are significant differences between groups (e.g. t-tests, analysis of variance) and examine relationships among variables (e.g. correlation, multiple regressions). Further, these packages can produce charts, graphs and tables from the results of the analysis.

Key Points of Quantitative Method in Tabular Form

The following table provides a breakdown of the key features of the categorization of research method and data in quantitative method:

Aim	The aim is to count things in an attempt to explain what is observed.
Purpose	Generalisability, prediction, causal explanations
Tools	Researcher uses tools, such as surveys, to collect numerical data.
Data Collection	Structured
Output	Data is in the form of numbers and statistics.
Sample	Usually a large number of cases representing the population of interest. Randomly selected respondents
Objective/Subjective	Objective – seeks precise measurement & analysis
Researcher Role	Researcher tends to remain objectively separated from the subject matter
Analysis	Statistical

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignments (TMA)

7.0 References/Further Reading

- "Quantitative Research: Definition, Methods, Types and Examples" available at: https://www.questionpro.com/blog/quantitative-research/ retrieved December 15, 2020.

Unit 3: Library/Desk Research

1.0 Introduction
2.0 Objectives
3.0 Main Contents – Library/Desk Research
4.0 Conclusion
5.0 Summary
6.0 Tutor Marked Assignments (TMA)
7.0 References/Further Reading

1.0 Introduction

Secondary research is also known as desk research as it involves synthesizing existing data that can be sourced from the internet, peer-reviewed journals, textbooks, government archives, and libraries. In some situations, the researcher may not be directly involved in the data gathering process and instead, would rely on already existing data in order to arrive at research outcomes. This approach to systematic investigation is known as secondary research or desk research. There are many reasons a researcher may want to make use of already existing data instead of collecting data samples, first-hand.

2.0 Objectives

This unit will discuss the concept of desk research. It will pinpoint reasons why desk research is undertaken. It will also recognize the main sources of desk research, the fundamental differences between primary research and desk research, as well as the techniques of conducting desk research. Other things that will be examined include the advantages and disadvantages of desk research.

3.0 Main Contents – Library/Desk Research

Desk Research is the research technique which is mainly acquired by sitting at a desk. **Desk research** is basically involved in collecting data from existing resources, hence it is often considered a low cost technique as compared to **field**

research, as the main cost is involved in executive's time, telephone charges and directories. However, it could also be a complete waste of time and money if the researcher does not have the proper knowledge of how the research is performed.

Desk research is very effective and can be conducted in starting phase of market research as it is quite quick and cheap and most of the basic information could be easily fetched, which can be used as benchmark in the research process.

Desk research refers to secondary data or that which can be collected without **fieldwork**. To most people, it suggests published reports and statistics and these are certainly important sources. In the context of this unit, the term is widened to include all sources of information that do not involve a **field survey**. This most certainly will include searching **libraries** and the internet but it could also include speaking to someone at a trade association or carrying out interviews with experts.

Secondary research or desk research is a research method that involves using already existing data. Existing data is summarized and collated to increase the overall effectiveness of research. Secondary research includes research material published in research reports and similar documents. These documents can be made available by public libraries, websites, data obtained from already filled-in surveys etc. Some government and non-government agencies also store data that can be used for research purposes and can be retrieved from them.

Secondary research is much more cost-effective than primary research, as it makes use of already existing data, unlike primary research where data is collected first hand by organizations or businesses or they can employ a third party to collect data on their behalf.

Secondary research is cost effective and that's one of the reasons that make it a popular choice among a lot of businesses and organizations. Not every organization is able to pay huge sum of money to conduct research and gather data. So, rightly secondary research is also termed as "desk research", as data can be retrieved from sitting behind a desk.

Desk research is another name for secondary research. Broadly speaking, there are two types of research activity: primary research (where researcher goes out

and discover material him/herself); and secondary research (where the researcher reviews what other people have done). Desk research is not about collecting data. Instead, investigator's role as a user researcher carrying out desk research is to review previous research findings to gain a broad understanding of the field.

Why do desk research?

Before carrying out a field visit, developing a prototype, running a usability test, or embarking on any project that investigator wants to be user centered, it makes sense to see what people have done in the past that relates to the product's domain. Although it's unlikely that anyone has carried out the exact research activity that the investigator is planning, someone has almost certainly tried to answer related questions. Reviewing this research is the quickest and cheapest way to understand the domain.

Carrying out desk research is a critical first step, for at least three reasons as follows:

- If the investigator does not know what has gone before, he/she won't know when s/he discovered something new.
- The investigator will sound credible when s/he gets face-to-face with users and stakeholders. If s/he has not done this "due diligence", s/he will ask dumb or irrelevant questions and may find his/her participants cut the sessions short.
- Failing to do preparatory research is disrespectful of investigators' participants' time.

Common Sources of Desk Research

S/N	Source	Information That Can Be Obtained From The Source
1.	Internal data within organizations	Customer lists; sales figures; trends of sales over time; enquiries; sources of enquiries; complaints; sales representatives' reports; market reports on the company's shelves; information in people's heads
2.	Educational Institutions	More research is conducted in colleges and universities than any other business sector.

3.	Libraries	Journals; newspapers; directories; clippings; reports; government statistics; statistics; industry statistics; atlases; dictionaries; books on products and processes
4.	Trade associations	Industry statistics; lists of members; technical papers; reports; informed opinion
5.	Government departments	Official statistics on output, population, and employment; white papers; monopolies and mergers reports; census data and lists; country reports; export and import data
6.	Nongovernment agencies	: Data for secondary research can also be collected from some non-government agencies. For example, Small Business Development Centers have valuable and relevant data that businesses or organizations can use. There may be a certain cost applicable to download or use data available with these agencies. Data obtained from these agencies are authentic and trustworthy.
7.	Exhibitions	Directories of companies exhibiting; brochures and catalogues from exhibitors; access to stands to see equipment and talk to staff
8.	On-line databases	Such as Dialog DataStar or Reuters for articles, reports and company information
9.	Internet	Company web sites for product and company information; articles; access to market research reports (or at least abstracts from them); lists of companies; government statistics; population statistics;
10.	Commercial information sources	Local newspapers, journals, magazines, radio and TV stations are a great source to obtain data for secondary research. These commercial information sources have first-hand information on economic developments, political agenda, market research, demographic segmentation and similar subjects.

Key Differences between Primary Research and Secondary Research

	Primary Research	Secondary Research
1.	Research is conducted first hand to obtain data. Researcher "owns" the data collected.	Research is based on data collected from previous researches.
2.	Primary research is based on raw data.	Secondary research is based on tried and tested data which is previously analyzed and filtered.
3.	The data collected fits the needs of a researcher, it is customized. Data is collected based on the absolute needs of organizations or businesses.	Data may or may not be according to the requirement of a researcher.
4.	Researcher is deeply involved in research to collect data in primary research.	As opposed to primary research, secondary research is fast and easy. It aims at gaining a broader understanding of subject matter.
5.	Primary research is an expensive process and consumes a lot of time to collect and analyze data.	Secondary research is a quick process as data is already available. Researcher should know where to explore to get most appropriate data.

How to conduct Secondary Research?

Here are the steps involved in conducting secondary research **(Desk Research):**

1. Identify the topic of research: Before beginning secondary research, identify the topic that needs research, once that's done, list down the research attributes and its purpose.

2. Identify research sources: Next, narrow down on the information sources that will provide most relevant data and information applicable to your research.

3. Collect existing data: Once the data collection sources are narrowed down, check for any previous data that is available which is closely related to the topic. Data related to research can be obtained from various sources like newspapers, public libraries, government and non-government agencies etc.

4. Combine and compare: Once data is collected, combine and compare the data for any duplication and assemble data into a usable format. Make sure to collect data from authentic sources. Incorrect data can hamper research severely.

4. Analyze data: Analyze data that is collected and identify if all questions are answered. If not, repeat the process if there is a need to dwell further into actionable insights.

Advantages of Secondary Research

1. Most information in secondary research is readily available. There are many sources from which relevant data can be collected and used, unlike primary research, where data needs to be collected from the scratch.

2. This is a less expensive and less time-consuming process as data required is easily available and doesn't cost much if extracted from authentic sources. A minimum expenditure is associated to obtain data.

3. The data that is collected through secondary research, gives organizations or businesses an idea about the effectiveness of primary research. Hence, organizations or businesses can form a hypothesis and evaluate cost of conducting primary research.

4. Secondary research is quicker to conduct because of availability of data. It can be completed within a few weeks, depending on the objective of businesses or scale of data needed.

Disadvantages of Secondary Research

1. Although data is readily available, credibility evaluation must be performed to understand the authenticity of the information available.

2. Not all secondary data resources offer the latest reports and statistics. Even when the data is accurate, it may not be updated enough to accommodate recent timelines.

3. Secondary research derives its conclusion from collective primary research data. The success of the research will depend, to a greater extent, on the quality of research already conducted by primary research.

4.0 Conclusion

Desk research is the collection of secondary data from internal sources, the internet, libraries, trade associations, government and nongovernment agencies,

and published reports. Other sources are commercial information centers and educational institutions. It is frequently carried out at the beginning of a study as a stage-gate to see if more costly primary research is justified. Key sources and uses of secondary research were discussed in this unit.

5.0 Summary

This unit was able to discuss the concept of desk research. It identified reasons why desk research is undertaken. It also pinpointed the main sources of desk research, the fundamental differences between primary research and desk research, as well as the techniques of conducting desk research. Other things examined were the advantages and disadvantages of desk research.

6.0 Tutor Marked Assignments (TMA)

- Write a short note on the differences between primary research and desk research.
- Examine the techniques for conducting desk research.
- Analyze the benefits and disadvantages of desk research.

7.0 References/Further Reading

- Prachi Juneja, "Desk Research - Methodology and Techniques" available at: https://www.managementstudyguide.com/desk-research.htm retrieved December 04, 2020.

- "Secondary Research- Definition, Methods and Examples" available at: https://www.questionpro.com/blog/secondary-research/ retrieved December 04, 2020.

- "What is Secondary research?" available at: https://www.formpl.us/blog/secondary-research retrieved December 05, 2020.

Unit 4: Survey and Experimental Designs

1.0 Introduction
2.0 Objectives
3.0 **Main Contents – Survey and Experimental Designs**
4.0 Conclusion
5.0 Summary
6.0 Tutor Marked Assignments (TMA)
7.0 References/Further Reading

1.0 Introduction

Experiment and survey methods are highly important in data gathering. Both can be utilized to test hypotheses and come up with conclusions. Research through experiments involves the manipulation of an independent variable and measuring its effect on a dependent variable. On the other hand, conducting surveys often entails the use of questionnaires and/or interviews.

2.0 Objectives

In the following paragraphs we shall define survey and experimental designs and thereafter we shall delve into the differences between the two.

3.0 Main Contents – Survey and Experimental Designs

An Experiment: What is it?

From the Latin word, "experior" which means "to attempt" or "to experience", experiment is defined as testing a hypothesis by carrying out a procedure under highly controlled conditions. This makes the method ideal in studying primary data. By manipulating a certain independent variable, its effect on a dependent variable can be measured. A cause and effect relationship is verified by exposing participants to certain treatments. For instance, researchers can measure how water intake can affect people's metabolism by letting the experimental group drink 8 glasses of water each day, while the control group will only have 4 glasses. Their metabolism rates will then be compared after a week and statistical treatments like T-test will be employed to validate the results.

What is a Survey?

From the medieval Latin word, "supervidere" which means "to see", survey is defined as having a comprehensive view of certain topics. Survey studies are largely conducted to look into people's opinions, feelings, and thoughts. It is best

suited for descriptive research which seeks to answer "what" questions regarding the respondents. Questionnaires are ideal in collecting information from a big population as they can be simultaneously administered to different groups and individuals. Survey questions can be sent to numerous respondents in both online and offline settings. For instance, researchers who are studying happiness levels among millennials floated questionnaires, made phone calls, and sent e-mails regarding the participants' perceived emotional states. The data were then collated and statistical treatment such as getting the weighted mean was utilized to analyze the responses.

Differences between Experiment and Survey

1. **Etymology of Experiment and Survey**

Experiment came from the Latin word "experior" which means "to attempt" or "to experience" while survey came from the Latin word "supervidere" which means "to see".

2. **Source of Information of Experiment and Survey**

Conducting an experiment enables the researchers to gather data from the result of the experimental treatment. On the other hand, surveys get information from the selected population.

3. **Data**

Experiments mainly deal with primary data while surveys can gather secondary data which are in line with descriptive research.

4. **Research involved in Experiment and Survey**

While survey is employed in descriptive research, the experimental method is noticeably used for experimental research.

5. **Sample Sizes for Experiment and Survey**

As compared to surveys, the sample sizes used in experiments are usually smaller. Since questionnaires can easily reach a number of people in various places, surveys can cover larger samples.

6. **Fields**

Many social and behavioral fields use the survey method in establishing facts while those in the physical and natural sciences basically employ experiments.

7. Laboratory Research for Experiment and Survey

Laboratory research usually makes use of experiments whereas field research largely profits from surveys.

8. Equipment needed for Experiment vs. Survey

Experiments often use various equipments in facilitating treatments and in observing responses while surveys do not need such elaborate tools.

9. Analysis

Correlational analysis is crucial in surveys while causal analysis is vital in experiments.

10. Challenge

Regarding surveys, it is usually difficult to study in-depth and genuine responses as the questions are already set for all respondents and some of them may not actually reveal their true opinions. On the other hand, one common challenge in experiments is ascertaining if the change of behavior observed was really caused by the manipulation of the independent variable or other factors.

11. Cost for Experiment vs. Survey

Conducting surveys is usually less costly as compared to experiments as it is generally concerned with the sources in making questionnaires. As for experiments, researches need resources such as laboratories, equipment, and software.

12. Manipulation

Experiments involve the manipulation of the independent variable by giving different treatments to the control and experimental groups. As for surveys, the research participants are merely asked questions and this is done when manipulations are not possible.

13. Relationships

Experiments tests causal relationships by verifying if the independent variable significantly impacts the dependent variable. As for surveys, they usually assess naturally occurring and enduring variables.

14. Topic Range in Experiment vs. Survey

As compared to experiments, surveys can be employed to look into a wider range of topics since the questions can be subdivided into different factors.

15. Randomization

Randomization practice is extremely crucial in establishing validity in experiments while such technique may or may not be employed in surveys.

Experiment vs. Survey: Comparison table

	Experiment	**Survey**
1.	"to attempt" or "to experience"	"to see"
2.	Information comes from the change of behavior as influenced by the independent variable	Data comes from the informant
3.	Deals with primary data	Often deals with secondary data
4.	Used in experimental research	Used in descriptive research
5.	Often studies small samples	Generally gathers data from bigger samples
6.	Associated with the natural and physical sciences	Commonly employed in social and behavioral sciences
7.	Employed in laboratory research	Conducted in field research
8.	Usually uses equipment	Does not need laboratory equipment
9.	Vital in causal analysis	Crucial in correlational analysis
10.	Faces challenges in verifying whether the effect is indeed caused by the independent variable	May have difficulties regarding respondents' genuine answers
11.	Costlier	Less Costly
12.	Involves manipulation	No manipulations involved
13.	Covers a more specific topic	Can cover a wider topic range
14.	Randomization is extremely crucial	Randomization may or may not be used.

4.0 Conclusion

In surveys, data is collected through interview, questionnaire, case study etc. In experiments, data is collected through several readings of experiment.

5.0 Summary

- Both experiment and survey methods are vital in collecting data.
- Experiment came from the Latin word “experior” which means “to attempt” or “to experience” while survey came from Latin word “supervidere” which means “to see”.
- Experiment mainly deals with primary data while surveys can cover both primary and secondary data.
- While experiments are often done with smaller samples, surveys can be effective with larger samples.
- Experiments are often concerned with laboratory research and causal analysis while surveys are mostly associated with field research and correlational analysis.
- As compared to surveys, conducting experiments is usually costlier due to the equipment and highly controlled conditions.
- Experiments cover more specific topics while surveys can assess a wider range of interests.

6.0 Tutor Marked Assignments (TMA)

- Define survey and experimental designs, as methods of carrying out research.

- Examine the differences between survey and experimental designs of research.

7.0 References/Further Reading

Jean Brown, “Difference Between Experiment and Survey.” DifferenceBetween.net. May 31, 2018 <http://www.differencebetween.net/science/difference-between-experiment-and-survey/ >. Retrieved December 20, 2020.

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Module 4: Basic Statistical Tools for Humanities Research

Unit 1: Introduction to Statistical Data Analysis
Unit 2: Basic Steps of Statistical Data Analysis
Unit 3: Parametric and Non-Parametric Statistical Procedures

Unit 1: Introduction to Statistical Data Analysis

1.0 Introduction
2.0 Objectives
3.0 Main Contents – Introduction to Statistical Data Analysis
4.0 Conclusion
5.0 Summary
6.0 Tutor Marked Assignments (TMA)
7.0 References/Further Reading

1.0 Introduction

In the information era, data is no prolonged scarce; on the other hand, it is irresistible. From delving into the overpowering quantity of data to precisely interpret its complexity in order to provide insights for intense progress to organizations and businesses, all sorts of data and information is exploited at their entirety and this is where statistical data analysis has a significant part. But what is Statistics?

> ***"Statistics is the specific branch of science from where the professionalists bring distinct conclusion/interference under the same data"***

2.0 Objectives

We shall discuss here the comprehensive notion concerning Statistical Data Analysis and its types, the significance of data under Statistical Data Analysis, where Statistical Data Analysis can be adopted, Statistical Data Analysis tools and types of Statistical Data Analysis.

3.0 **Main Contents – Introduction to Statistical Data Analysis**

What is Statistical Data Analysis?

Statistics incorporates data acquisition, data interpretation, and data validation, and statistical data analysis is the method of conducting various statistical operations, that is, thorough quantitative research that attempts to quantify data and employs some sorts of statistical analysis. Here, quantitative data typically includes descriptive data like survey data and observational data. In the context of business applications, it is a very crucial technique for business intelligence organizations that need to operate with large data volumes. The basic goal of statistical data analysis, however, is to identify trends.

Apart from that, statistical data analysis has various applications in the field of statistical analysis of market research, business intelligence (BI), data analytics in big data, machine learning and deep learning, and financial and economical analysis.

In addition to the above, the **significance of data under statistical data** analysis inheres in the following:

1. Data comprises variables which are **univariate** or **multivariate**, and extremely relying on the number of variables, the experts execute several statistical techniques. If the data has a singular variable then univariate statistical data analysis can be conducted including ***t-test for significance, z test, f test, ANOVA one way, etc***. And if the data has many variables then different multivariate techniques can be performed such as statistical data analysis, or discriminant statistical data analysis, etc.

2. Data is of two types, ***continuous data and discrete data***. The continuous data cannot be counted and changes over time, e.g. the intensity of light, the temperature of a room, etc. The discrete data can be counted and has a certain number of values, e.g. the number of bulbs, the number of people in a group, etc.

3. Under statistical data analysis, the continuous data is distributed under continuous distribution function, also known as the probability density function. And the discrete data is distributed under a discrete distribution function, also termed as the probability mass function.

4. Data can either be quantitative or qualitative. Qualitative data are labels or names that are implemented to find a characteristic of each element, whereas quantitative data are always in the form of numbers that intimate either how much or how many.

5. Under statistical data analysis, cross-sectional and time-series data are important. For a definition, cross-sectional data are the data accumulated at the same time or relatively the same point in time, whereas, time-series data are the data gathered across certain time periods.

Where can Statistical data analysis be adopted?

Statistical data analysis can be adopted:

- On existing essential findings/conclusions unveiled through a dataset.
- To abstract and compile information.
- To compute measures of cohesiveness, relevance, or diversity in data.
- To originate forthcoming prophecies on the basis of earlier reported data.
- To test experimental forecasts.

Statistical Data Analysis Tools

Generally, under statistical data analysis, some form of statistical analysis tools are practiced that a layman can't do without having statistical knowledge of. Various software programs are available to perform statistical data analysis, these software include *Statistical Analysis System (SAS), Statistical Package for Social Science (SPSS), Stat soft and many more.*

These tools allow extensive data-handling capabilities and several statistical analysis methods that could examine a small chunk to very comprehensive data statistics. Though, computers serve as an important factor in statistical data analysis that can assist in the summarization of data, statistical data analysis concentrates on the interpretation of the result, in order to drive inferences and prophecies.

Types of Statistical Data Analysis

There are two important components of a statistical study. These are:

- **Population** - an assemblage of all elements of interest in a study, and
- **Sample** - a subset of the population.

And, there are two categories of widely used statistical methods under statistical data analysis techniques, namely:

1. **Descriptive Statistics**

   It is a form of data analysis that is basically used to describe, show or summarize data from a sample in a meaningful way. For example, *mean, median, standard deviation and variance.* In other words, descriptive statistics attempts to illustrate the relationship between variables in a sample or population and gives a summary in the form of *mean, median and mode*.

2. **Inferential Statistics**

   This method is used for making conclusions from the data sample by using the *null* and *alternative hypotheses* that are subjected to random variation. Also, probability distribution, correlation testing and regression analysis fall into this category. In simple words, inferential statistics employs a random sample of data, taken from a population, to make and explain inferences about the whole population.

The table below shows the factual differences between descriptive statistics and inferential statistics:

S/No.	Descriptive Statistics	Inferential Statistics
1.	Related with specifying the target population.	Make inferences from the sample and make them generalize also according to the population**.**
2.	Arrange, analyze and reflect the data in a meaningful mode.	Correlate, test and anticipate future outcomes**.**
3.	Concluding outcomes are represented in the form of charts, tables and graphs.	Final outcomes are the probability scores**.**
4.	Explains the earlier acknowledged data.	Attempts in making conclusions regarding the population which is beyond the data available.
5.	Deployed tools-Measure of	Deployed tools- Hypothesis testing,

	central tendency (mean, median, mode), Spread of data (Range, standard deviation, etc.)	Analysis of variance, etc.

4.0 Conclusion

Statistics integrates data acquisition, data interpretation, and data validation, and statistical data analysis is the method of conducting various statistical operations, through quantitative research that attempts to quantify data and employs some sorts of statistical analysis. Statistical data analysis can be adopted in various ways including the following:

- On existing essential findings/conclusions unveiled through a dataset.
- To abstract and compile information.
- To compute measures of cohesiveness, relevance, or diversity in data.
- To originate forthcoming prophecies on the basis of earlier reported data.
- To test experimental forecasts.

5.0 Summary

We were able to discuss in this unit, the comprehensive notion concerning Statistical Data Analysis and its types, the significance of data under Statistical Data Analysis, where Statistical Data Analysis can be adopted, Statistical Data Analysis tools and types of Statistical Data Analysis.

6.0 Tutor Marked Assignments (TMA)

- Examine the notion of Statistical Data Analysis and its types.
- Of what significance is data under Statistical Data Analysis?
- Identify and explain the various Statistical Data Analysis tools

7.0 References/Further Reading

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Unit 2: Basic Steps of Statistical Data Analysis

1.0 Introduction
2.0 Objectives
3.0 Main Contents – Basic Steps of Statistical Data Analysis
4.0 Conclusion
5.0 Summary
6.0 Tutor Marked Assignments TMA)
7.0 References/Further Reading

1.0 Introduction

Statistical analysis is the collection and interpretation of data in order to uncover patterns and trends. It is a component of data analytics. Statistical analysis can be used in situations like gathering research interpretations, statistical modeling or designing surveys and studies. It can also be useful for business intelligence organizations that have to work with large data volumes. The goal of statistical analysis is to identify trends.

2.0 Objectives

In this unit, we shall mention and explain four basic steps required for completion of statistical data analysis.

3.0 Main Contents – Basic Steps of Statistical Data Analysis

4 Basics Steps for Statistical Data Analysis

In order to analyze any problem with the use of statistical data analysis, four basic steps must be taken as follows:

1. Defining the problem

The precise and actuarial definition of the problem is imperative for achieving accurate data concerning it. It becomes extremely difficult to collect data without knowing the exact definition of the problem.

2. Accumulating the data

After addressing the specific problem, designing multiple ways in order to accumulate data is an important task under statistical data analysis. Data can be collected from the actual sources or can be obtained by observation and experimental research studies, conducted to get new data.

- In an experimental study, the important variable is identified according to the defined problem, then one or more elements in the study are controlled for getting data regarding how these elements affect other variables.
- In an observational study, no trial is executed for controlling or impacting the important variable. For example, a conducted surrey is the example or a common type of observational study.

3. Analyzing the data

Under statistical data analysis, the analyzing methods are divided into two categories;

- Exploratory methods - this method is deployed for determining what the data is revealing by using simple arithmetic and easy-drawing graphs/description in order to summarize data.

- Confirmatory methods - this method adopts concept and ideas from probability theory for trying to provide answers to particular problems.

Probability is extremely imperative in decision-making as it gives a procedure for estimating, representing, and explaining the possibilities associated with forthcoming events.

4. Reporting the outcomes

By inferences, an estimate or test that claims to be the characteristics of a population can be derived from a sample, these results could be reported in the form of a table, a graph or a set of percentages. Since only a small portion of data has been investigated, therefore the reported result can depict some uncertainties by implementing probability statements and intervals of values. With the help of statistical data analysis, experts could forecast and anticipate future aspects from data. By understanding the information available and utilizing it effectively may lead to adequate decision-making.

4.0 Conclusion

The statistical data analysis furnishes sense to the meaningless numbers and thereby, giving life to lifeless data. Therefore, it is imperative for a researcher to have adequate knowledge about statistics and statistical methods to perform any research study. This will assist in conducting an appropriate and well-designed study pre-eminently to accurate and reliable results. Also, results and inferences are explicit only and only if proper statistical tests are practiced.

We can say in conclusion that statistical data analysis is nothing but the compilation and interpretation of data in order to reveal hidden patterns and trends. It can be adopted in dealing with situations like accumulating research analyses, statistical modeling or sketching surveys and studies.

5.0 Summary

In this unit we were able to mention and explain four basic steps required for completion of statistical data analysis. These include:

- Defining the problem
- Accumulating the data
- Analyzing the data
- Reporting the outcomes.

6.0 Tutor Marked Assignments (TMA)

- Define statistical analysis and identify its goal.
- Mention and expound four basic steps essential for completion of statistical data analysis.

7.0 References/Further Reading

- Neelam Tyagi (2020) *analytic steps* "Introduction to Statistical Data Analysis" available at: https://www.analyticssteps.com/blogs/introduction-statistical-data-analysis retrieved December 15, 2020.

Unit 3: Parametric and Non-Parametric Statistical Procedures

1.0 Introduction
2.0 Objectives
3.0 Main Contents – Parametric and Non-Parametric Statistical Procedures
4.0 Conclusion
5.0 Summary
6.0 Tutor Marked Assignments (TMA)
7.0 References/Further Reading

1.0 Introduction

Students and researchers in Humanities disciplines may perceive statistics topic as difficult, whereas it is a topic that can be understood if interest is really developed in it. This is because it helps a great deal when it comes to data analysis. However, it is not compulsory that statistics must be applied in every data analysis, but it is good to have idea about statistics as students and researchers in the Humanities disciplines.

2.0 Objectives

In this unit, we shall discuss two statistical procedures, namely parametric and non-parametric procedures. We will also compare between the two methods to identify their areas of differences. The objective here is to expose students in Humanities discipline, particularly those in Islamic Studies to parametric and nonparametric statistical procedures so that it won't be strange to them when they come across it in other Humanities subject where statistics are being used to analyze data.

3.0 Main Contents – Parametric and Non-Parametric Statistical Procedures

The field of statistics exists because it is usually impossible to collect data from all individuals of interest (population). Researcher's only solution is to collect data from a subset (sample) of the individuals of interest, but the real desire is to know the "truth" about the population. Quantities such as *means, standard deviations* and *proportions* are all important values and are called "parameters" when we are talking about a population. Since we usually cannot get data from the whole population, we cannot know the values of the parameters for that population. We can, however, calculate estimates of these quantities for our sample. When they are calculated from sample data, these quantities are called "statistics." A statistic estimates a parameter.

Several fundamental statistical concepts are helpful prerequisite knowledge for fully understanding the terms "parametric" and "nonparametric." These statistical fundamentals include *random variables, probability distributions, parameters, population, sample, sampling distributions* and *the Central Limit Theorem.*

Parametric and nonparametric are two broad classifications of statistical procedures. Nonparametric statistical procedures are a class of statistical procedures that do not rely on assumptions about the shape or form of the probability distribution from which the data were drawn.

Parametric statistical procedures rely on assumptions about the shape of the distribution (i.e., assume a normal distribution) in the underlying population and about the form or parameters (i.e., means and standard deviations) of the assumed distribution. Nonparametric statistical procedures rely on no or few assumptions about the shape or parameters of the population distribution from which the sample was drawn.

Parametric Methods

Methods are classified by what we know about the population we are studying. Parametric methods are typically the first methods studied in an introductory statistics course. The basic idea is that there is a set of fixed parameters that determine a probability model. Parametric methods are often those for which we know that the population is approximately normal, or we can approximate using a normal distribution after we invoke the *central limit theorem*. There are two parameters for a normal distribution: the *mean* and the *standard deviation*.

Ultimately the classification of a method as parametric depends upon the assumptions that are made about a population. A few parametric methods include:

- Confidence interval for a population mean, with known standard deviation.
- Confidence interval for a population mean, with unknown standard deviation.
- Confidence interval for a population variance.
- Confidence Interval for the difference of two means, with unknown standard deviation.

Nonparametric Methods

To contrast with parametric methods, nonparametric methods need to be defined. Nonparametric Methods are statistical techniques for which we do not have to make any assumption of parameters for the population we are studying. Indeed, the methods do not have any dependence on the population of interest. The set of parameters is no longer fixed, and neither is the distribution that we use. It is for this reason that nonparametric methods are also referred to as **distribution-free** methods.

Nonparametric methods are growing in popularity and influence for a number of reasons. The main reason is that we are not constrained as much as when we use a parametric method. We do not need to make as many assumptions about the population that we are working with as what we have to make with a parametric method. Many of these nonparametric methods are easy to apply and to understand. A few nonparametric methods include:

- Sign test for population mean
- Bootstrapping Techniques
- U test for two independent means
- Spearman correlation test

Comparison Parametric and Nonparametric Methods

There are multiple ways to use statistics to find a confidence interval about a mean. A parametric method would involve the calculation of a margin of error with a formula, and the estimation of the population mean with a sample mean. A nonparametric method to calculate a confidence mean would involve the use of bootstrapping.

Why do we need both parametric and nonparametric methods for this type of problem? Many times parametric methods are more efficient than the corresponding nonparametric methods. Although this difference in efficiency is typically not that much of an issue, there are instances where we do need to consider which method is more efficient.

4.0 Conclusion

Parametric tests are those that make assumptions about the parameters of the population distribution, from which the sample is drawn. This is often the assumption that the population data are normally distributed. Non-parametric tests are "distribution-free" and, as such, can be used for non-Normal variables.

5.0 Summary

Here are the major points and how they might affect statistical analyses researchers perform:

- Parametric and nonparametric are two broad classifications of statistical procedures.

- Parametric tests are based on assumptions about the distribution of the underlying population from which the sample was taken. The most common parametric assumption is that data are approximately normally distributed.

- Nonparametric tests do not rely on assumptions about the shape or parameters of the underlying population distribution.

- If the data deviate strongly from the assumptions of a parametric procedure, using the parametric procedure could lead to incorrect conclusions.

- Researcher should be aware of the assumptions associated with a parametric procedure and should learn methods to evaluate the validity of those assumptions.

- If a researcher determines that the assumptions of the parametric procedure are not valid, s/he can use an analogous nonparametric procedure instead.

- The parametric assumption of normality is particularly worrisome for small sample sizes (n < 30). Nonparametric tests are often a good option for these data.

- It can be difficult to decide whether to use a parametric or nonparametric procedure in some cases. Nonparametric procedures generally have less power for the same sample size than the corresponding parametric procedure if the data truly are normal. Interpretation of nonparametric procedures can also be more difficult than for parametric procedures.

- Researcher may check with a statistician if s/he is in doubt about whether parametric or nonparametric procedures are more appropriate for their data.

6.0 Tutor Marked Assignments (TMA)

- Explain the two statistical procedures of parametric and nonparametric.
- Examine the differences between distribution-free method and parametric method.

7.0 References/Further Reading

- Neelam Tyagi (2020) *analytic steps* "Introduction to Statistical Data Analysis" available at: https://www.analyticssteps.com/blogs/introduction-statistical-data-analysis retrieved December 15, 2020.

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Module 5: Documentation of Research Resources

Unit 1: Introduction to Documentation of Research Resources
Unit 2: The Classical Style and Abbreviations
Unit 3: The Chicago Manual of Style (CMS)/TURABIAN
Unit 4: The Manual of Language Association Style (MLA)
Unit 5: The American Psychological Association Style (APA Style)

Unit1: Documentation and Referencing: Introduction

1.0 Introduction
2.0 Objectives
3.0 Main Contents – Documentation and Referencing: Introduction
4.0 Conclusion
5.0 Summary
6.0 Tutor Marked Assignments TMA)
7.0 References/Further Reading

1.0 Introduction to Documentation and Referencing

It is crucial that researchers cite sources and acknowledge the ideas of others who have influenced their thinking about a particular topic. With the proliferation of full-text, online resources, it is very easy to cut and paste text and images into one's own work. But there is need to be aware of the ethical and legal issues involved in using someone else's work without proper attribution. If a researcher is not cautious, s/he may unknowingly plagiarize someone else's ideas. In a report or research paper, *documentation* is the evidence provided for information and ideas borrowed from others. That evidence includes both primary and secondary sources of data used in a research.

Objectives

In this unit, we will examine the meaning of documentation and the reasons why research sources should be documented. We shall also discuss the concepts of academic integrity and plagiarism. We shall consider what to document in research, when and where to document, and how much of information should be documented by researcher when writing the report.

3.0 Main Contents -

Documenting means showing where researcher got source information that's not his/her own. A research paper blends ideas with ideas and information from other sources. Documentation shows the reader what ideas are researcher's own, and what information and ideas s/he has taken from other sources to support his/her point of view.

Reasons for Documenting Research Sources include the Following:

- By correctly documenting, investigator establishes credibility as a writer and researcher. S/he is letting the reader know that experts whose ideas and information back up the researcher's own thoughts and ideas have been consulted. This consequently makes the investigator's perspective or argument more believable.
- When sources are not correctly documented, investigator's academic integrity can be called into question, because it may seem as though s/he is just passing off other peoples' ideas as his/her own.
- Refusal to document could mean inadvertent attempt to plagiarize, which is grounds for dismissal of faculty from university or rejection of students' submission.

Academic Integrity

Academic integrity involves not only acknowledging your sources, but also creating your own ideas. Academic integrity, explained in this way, sounds relatively simple. But the particular applications are a bit trickier. The most common academic integrity problems that most students encounter are:

1. relying too heavily on others' information in a research paper
2. relying too heavily on others' words in a paraphrase or summary
3. citing and documenting sources incorrectly
4. relying too heavily on help from other sources

The most egregious violation of academic integrity is when a student uses a writing assignment for more than one course, or when a student "borrows" a paper and passes it off as his or her own work.

What to Document

The basic rule for documentation is: Document any specific ideas, opinions, and facts that are not your own. The only thing you don't have to document is common knowledge.

For example: you do have to document the fact that 103 cities in New York state were originally settled by English settlers because this is a specific fact that is not common knowledge. You do not have to document the information that New York state has places named for English cities, since this is common knowledge.

There are two categories of common knowledge:

- information that's known to the general public
- information that is agreed upon by most people in a professional field

Sometimes common knowledge can be tricky to define but a good rule is if a researcher is in doubt, s/he should document.

How Much Can a Researcher Document?

If you find yourself needing to document almost every sentence, then it means you have not thought enough about your topic to develop your own ideas. A paper should not be just a collection of other peoples' ideas and facts. Sources should only support or substantiate your own ideas. The rule of thumb is that whenever you use information from sources, you should comment on the information. Your comment should be approximately the matching length/content as the source itself.

Where to Document

You must identify your sources in two places in your research paper:

- at the end
- in your paper as you use direct quotations, or paraphrases and summaries of ideas and information from the sources you've researched

Citing at the end of the paper: Put your notecards with the source information on them in alphabetical order according to the authors' last names, then follow the correct format for providing the essential source information.

Documenting your sources within the text of your paper

Most current research papers insert the basic source information inside parentheses within the text of the paper either at the end of the sentence, or group of sentences, that contain the source's information.

It needs be mentioned that footnotes are gradually becoming out of date.

Merely documenting paraphrases and summaries at the end of paragraphs leaves readers confused. Does the documentation refer to the last sentence? the whole paragraph? part of a paragraph? So you also need to show where the source's information starts as well as ends. The easiest way to do this is to use a phrase such as "According to Dr. James Watts. . ." or "Carly Simon maintains that. . . ."

Plagiarism

According to the "American Heritage Dictionary," plagiarism means "to steal and use [the ideas and writings of another] as one's own. To appropriate passages or ideas from [another] and use them as one's own."

Plagiarism is a serious offense within the academic community. You plagiarize whether you intend to or not when you don't credit other peoples' ideas within/at the end of your paper. Even though you may have re-written ideas and information using your own words in a paraphrase or summary, the ideas and information are not yours. You must cite your source.

4.0 Conclusion

In academic research report, *documentation* is the evidence provided researcher for information and ideas borrowed from others. That evidence includes both primary and secondary sources of data used in a research. Proper documentation of data sources prevents researcher from falling into plagiarism or academic fraud. It gives integrity to the reports of researcher.

5.0 Summary

In this unit, we were able to explain the meaning of documentation of research sources and how to go about it. We also highlighted reasons for documenting research sources and discussed the concepts of academic integrity and plagiarism. We considered what to document in research, when and where to document, and how much of information should be documented by researcher when writing the report.

6.0 Tutor Marked Assignments (TMA)

- ❖ Explain these concepts as used in academic research:
  - Academic integrity
  - Plagiarism
  - Research Documentation

7.0 References/Further Reading

- "Documenting Sources" available at: https://www.esc.edu/online-writing-center/resources/research/research-paper-steps/documenting-sources/ retrieved December 05, 2020.

- Library Compass, "Documenting Your Research" available at: https://ccnmtl.columbia.edu/projects/compass/discipline_humanities/documenting.html retrieved December 07, 2020.

Unit 2: Documentation and Referencing: the Classical Styles of Citation and Referencing

1.0 Introduction

2.0 Objectives

3.0 Main Contents – the Classical Styles of Citation and Referencing

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignments TMA)

7.0 References/Further Reading

1.0 Introduction

A **citation** is a way of giving credit to individuals for their creative and intellectual works that you utilized to support your research. It can also be used to locate particular sources and combat plagiarism. Typically, a citation can include

the author's name, date, location of the publishing company, journal title, or DOI (Digital Object Identifer).

A citation style dictates the information necessary for a citation and how the information is ordered, as well as punctuation and other formatting. There are many different ways of citing resources for your research. The citation style sometimes depends on the academic discipline involved. For example:

- APA (American Psychological Association) is used by Education, Psychology, and Sciences.
- MLA (Modern Language Association) style is used by the Humanities
- Chicago/Turabian style is generally used by Business, History, and the Fine Arts.

2.0 Objectives

In this unit, we shall highlight the classical abbreviations commonly used in referencing methods when writing researches in different disciplines. These Classical methods comprise Latin terminologies and they, among others, include the following:

3.0 Main Contents – the Classical Style and the Classical Referencing Abbreviations

1. *Ibidem* – abbreviated: *ibid* – as before/ditto

This is used when a writer wants to cite the same work. In fact, it literaly means "in the same place" or "in the same work" or "what has been previously mentioned". e.g.:

1. Haykal, M. H. (1972). *The Life of Muhammad*. Lagos: Islamic Publication Bureau. p.19
2. Ibid. p. 10

The above example simply means that the author is making the same reference he has made in number 1, in number 2.

2. *Opere Citato* – abbreviated: *op. cit.*

This is used when the researcher or students cites the same author of material in different pages. When *op. cit*. is used, the reader turns to the footnote, endnote or references to find the cited material. e.g.:

a) 5. Galwash, A. A. (1963). *The Religion of Islam*, Cairo, Egypt, p. 5.

b) 15. Galwash, A. A. op. cit., p. 5.

The above example simply means that the same material referred to in 5 was also referred to in 15.

3. Loco Citato – abbreviated: Loc. Cit.

Loco Citato or loc .cit. is used when the same material which follows sequentially have been referred to during the course of the work i.e. when the citation is made from the same source and page number, loc. cit. is used. Hence, *loco citato* means in the same place. e.g.:

a) 1. Hamidullah M. (1979). Introduction to Islam, London MWL Publishers p.19

b) 2. *Loc. cit.*

The above example simply means that the loc. cit. in reference 2 refers to everything in reference 7.

N.B.: As much as possible, the use of the terms '*Ibidem*'. ''*Op. cit*.'' ''*Loc. Cit*.'' and ''*Ibid*'' are to be avoided in textual referencing: the term '' et al.'' should be used where reference is to be made a second time to a material co-authored by more than two scholars whose names must have been fully quoted previously in the thesis. Meanwhile, the application of this method is discipline specific. It is allowed in the humanities disciplines among others.

Other Abbreviations Commonly Used in Referencing

Serial Number	Word	Abbreviation
1.	No Publisher	n.p.
2.	No Pagination	n. pag.
3.	Edited by, Edition or Editor	ed. or ed.
4.	Months	Jan, Feb, Mar, Apr, Aug, Sept, Oct, Nov, Dec. **Note**: May, June and July are not abbreviated.

5.	No date	n. d.

4.0 Conclusion

The classical abbreviations commonly used in referencing methods when writing researches in different disciplines were examined in this unit with examples. These Classical methods comprise Latin terminologies and they, among others, include: *Ibidem, Opere Citato, Loco Citato, et al.*

5.0 Summary

There are many different ways of citing resources for research. The citation style to adopt however sometimes depends on the academic discipline involved and the style adopted by the faculty under which the research is being done. The popular reference styles include:

- APA (American Psychological Association).
- MLA (Modern Language Association).
- Chicago Manual of Style/Turabian style.

This unit however has focused on the abbreviations used in classical referencing style. In the subsequent units we will focus attention on other aspects of the classical styles of citation.

6.0 Tutor Marked Assignments TMA)

- Enumerate and elucidate the classical abbreviations in common use in academic write-ups.

7.0 References/Further Reading

- Gibaldi, J. and Achtert, W. S. (1988). *MLA Handbook for Writers of Research Papers.* New York: The Modern Language Association of America.

- "How to write Research papers with citations – MLA, APA, Footnotes, Endnotes" http://www.studenthandouts.com/citations .htm. retrieved December, 23, 2020.

Unit 3: Documentation and Referencing: the Chicago Manual of Style/Turabian

1.0 Introduction

2.0 Objectives

3.0 Main Contents – the Chicago Manual of Style/Turabian

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignments TMA)

7.0 References/Further Reading

1.0 Introduction

2.0 Objectives

3.0 Main Contents – the Chicago Manual of Style/Turabian

Source citations in the Turabian manual come in two varieties: (1) author-date and (2) notes and bibliography (or simply notes). These two systems are also sometimes referred to as **Chicago-style citations**, because they are the same as the ones presented in ***The Chicago Manual of Style*****.** The notes and bibliography style is popular in the humanities—including literature, history, and the arts. In this system, sources are cited in numbered footnotes or endnotes. Each note corresponds to a raised (superscript) number in the text. Sources are also usually listed in a separate bibliography. This system is very flexible and can easily accommodate a wide variety of sources.

Author-Date: Sample Citations

BOOK

Reference List Entries (In Alphabetical Order)

Kitamura, Katie. 2017. *A Separation*. New York: Riverhead Books.

Sassler, Sharon, and Amanda Jayne Miller. 2017. *Cohabitation Nation: Gender, Class, and the Remaking of Relationships*. Oakland: University of California Press.

In-Text Citations

(Kitamura 2017, 25)

(Sassler and Miller 2017, 114)

Chapter or Other Part of an Edited Book

In the reference list, include the page range for the chapter or part. In the text, cite specific pages.

Reference List Entry

Rowlandson, Mary. 2016. “The Narrative of My Captivity.” In *The Making of the American Essay*, edited by John D’Agata, 19–56. Minneapolis: Graywolf Press.

In-Text Citation
(Rowlandson 2016, 19–20)
To cite an edited book as a whole, list the editor(s) first.

Reference List Entry
D'Agata, John, ed. 2016. *The Making of the American Essay*. Minneapolis: Graywolf Press.
In-Text Citation
(D'Agata 2016, 19–20)

Translated Book
Reference List Entry
Lahiri, Jhumpa. 2016. *In Other Words*. Translated by Ann Goldstein. New York: Alfred A. Knopf.
In-Text Citation
(Lahiri 2016, 146)

E-BOOK
For books consulted online, include a URL or the name of the database in the reference list entry. For other types of e-books, name the format. If no fixed page numbers are available, cite a section title or a chapter or other number in the text or, if possible, track down a version with fixed page numbers.
Reference List Entries (In Alphabetical Order)
Austen, Jane. 2007. *Pride and Prejudice*. New York: Penguin Classics. Kindle.
Dostoevsky, Fyodor. 1917. *Crime and Punishment*. Translated by Constance Garnett, edited by William Allan Neilson. New York: P. F. Collier & Son. https://archive.org/details/crimepunishment00dostuoft.
Schlosser, Eric. 2001. *Fast Food Nation: The Dark Side of the American Meal*. Boston: Houghton Mifflin. ProQuest Ebrary.

In-Text Citations
(Austen 2007, chap. 3)
(Dostoevsky 1917, 444)
(Schlosser 2001, 88)

THESIS OR DISSERTATION
Reference List Entry

Navarro-Garcia, Guadalupe. 2016. "Integrating Social Justice Values in Educational Leadership: A Study of African American and Black University Presidents." PhD diss., University of California, Los Angeles. ProQuest Dissertations & Theses Global.

In-Text Citation
(Navarro-Garcia 2016, 44)

JOURNAL ARTICLE
In the reference list, include the page range for the whole article. In the text, cite specific page numbers. For articles consulted online, include a URL or the name of the database in the reference list entry. Many journal articles list a DOI (Digital Object Identifier). A DOI forms a permanent URL that begins https://doi.org/. This URL is preferable to the URL that appears in your browser's address bar.

Reference List Entries (In Alphabetical Order)
Keng, Shao-Hsun, Chun-Hung Lin, and Peter F. Orazem. 2017. "Expanding College Access in Taiwan, 1978–2014: Effects on Graduate Quality and Income Inequality." *Journal of Human Capital* 11, no. 1 (Spring): 1–34. https://doi.org/10.1086/690235.

LaSalle, Peter. 2017. "Conundrum: A Story about Reading." *New England Review* 38 (1): 95–109. Project MUSE.

Pérez, Ashley Hope. 2017. "Material Morality and the Logic of Degrees in Diderot's *Le neveu de Rameau*." *Modern Philology* 114, no. 4 (May): 872–98. https://doi.org/10.1086/689836.

In-Text Citations
(Keng, Lin, and Orazem 2017, 9–10)
(LaSalle 2017, 95)
(Pérez 2017, 874)

Journal articles often list many authors, especially in the sciences. If there are four or more authors, list up to ten in the reference list; in the text, list only the first, followed by *et al.* ("and others"). For more than ten authors (not shown here), list the first seven in the reference list, followed by *et al.*

Reference List Entry

Weber, Jesse N., Martin Kalbe, Kum Chuan Shim, Noémie I. Erin, Natalie C. Steinel, Lei Ma, and Daniel I. Bolnick. 2017. "Resist Globally, Infect Locally: A Transcontinental Test of Adaptation by Stickleback and Their Tapeworm Parasite." *American Naturalist* 189, no. 1 (January): 43–57. https://doi.org/10.1086/689597.

In-Text Citation

(Weber et al. 2017, 45)

NEWS OR MAGAZINE ARTICLE

Articles from newspapers or news sites, magazines, blogs, and the like are cited similarly. In the reference list, it can be helpful to repeat the year with sources that are cited also by month and day. Page numbers, if any, can be cited in the text but are omitted from a reference list entry. If you consulted the article online, include a URL or the name of the database.

Reference List Entries (In Alphabetical Order)

Anderssen, Erin. 2016. "Through the Eyes of Generation Z." *Globe and Mail* (Toronto), June 25, 2016. http://www.theglobeandmail.com/news/national/through-the-eyes-of-generation-z/article30571914/.

Cunningham, Vinson. 2017. "You Don't Understand: John McWhorter Makes His Case for Black English." *New Yorker*, May 15, 2017.

Lind, Dara. 2016. "Moving to Canada, Explained." *Vox*, September 15, 2016. http://www.vox.com/2016/5/9/11608830/move-to-canada-how.

Manjoo, Farhad. 2017. "Snap Makes a Bet on the Cultural Supremacy of the Camera." *New York Times*, March 8, 2017. https://www.nytimes.com/2017/03/08/technology/snap-makes-a-bet-on-the-cultural-supremacy-of-the-camera.html.

Pegoraro, Rob. 2007. "Apple's iPhone Is Sleek, Smart and Simple." *Washington Post*, July 5, 2007. LexisNexis Academic.

In-Text Citations
(Anderssen 2016)
(Cunningham 2017, 85)
(Lind 2016)
(Manjoo 2017)
(Pegoraro 2007)
Readers' comments are cited in the text but omitted from a reference list.

In-Text Citation
(Eduardo B [Los Angeles], March 9, 2017, comment on Manjoo 2017)

BOOK REVIEW
Reference List Entry
Eberstadt, Fernanda. 2017. "Gone Guy: A Writer Leaves His Wife, Then Disappears in Greece." Review of *A Separation*, by Katie Kitamura. *New York Times*, February 15, 2017. https://www.nytimes.com/2017/02/15/books/review/separation-katie-kitamura.html.

In-Text Citation
(Eberstadt 2017)
WEBSITE CONTENT
Web pages and other website content can be cited as shown here. For a source that does not list a date of publication, posting, or revision, use *n.d.* (for "no date") in place of the year and include an access date.

Reference List Entries (In Alphabetical Order)
Columbia University. n.d. "History." Accessed May 15, 2017. http://www.columbia.edu/content/history.html.
Google. 2017. "Privacy Policy." Privacy & Terms. Last modified April 17, 2017. https://www.google.com/policies/privacy/.

In-Text Citations
(Columbia University, n.d.)
(Google 2017)

AUDIOVISUAL CONTENT

Reference List Entries (In Alphabetical Order)

Beyoncé. 2016. "Sorry." Directed by Kahlil Joseph and Beyoncé Knowles. June 22, 2016. Music video, 4:25. https://youtu.be/QxsmWxxouIM.

Stamper, Kory. 2017. "From 'F-Bomb' to 'Photobomb,' How the Dictionary Keeps Up with English." Interview by Terry Gross. *Fresh Air*, NPR, April 19, 2017. Audio, 35:25. http://www.npr.org/2017/04/19/524618639/from-f-bomb-to-photobomb-how-the-dictionary-keeps-up-with-english.

In-Text Citations

(Beyoncé 2016)
(Stamper 2017)

Social Media Content

Citations of content shared through social media can usually be limited to the text (as in the first example below). If a more formal citation is needed or to include a link, a reference list entry may be appropriate. In place of a title, quote up to the first 160 characters of the post. Comments are cited in reference to the original post.

TEXT

Sloane Crosley offers the following advice: "How to edit: Attack a sentence. Write in the margins. Toss in some arrows. Cross out words. Rewrite them. Circle the whole mess and STET" (@askanyone, Twitter, May 8, 2017).

Reference List Entries (In Alphabetical Order)

Chicago Manual of Style. 2015. "Is the world ready for singular they? We thought so back in 1993." Facebook, April 17, 2015. https://www.facebook.com/ChicagoManual/posts/10152906193679151.

Souza, Pete (@petesouza). 2016. "President Obama bids farewell to President Xi of China at the conclusion of the Nuclear Security Summit." Instagram photo, April 1, 2016. https://www.instagram.com/p/BDrmfXTtNCt/.

In-Text Citations

(Chicago Manual of Style 2015)
(Souza 2016)

(Michele Truty, April 17, 2015, 1:09 p.m., comment on Chicago Manual of Style 2015)

PERSONAL COMMUNICATION

Personal interviews, correspondence, and other types of personal communications—including email and text messages and direct messages sent through social media—are usually cited in the text only; they are rarely included in a reference list.

In-Text Citations

(Sam Gomez, Facebook message to author, August 1, 2017)
(Interview with home health aide, July 31, 2017)

The **notes and bibliography style** is preferred by many in the humanities, including those in literature, history, and the arts. This style presents bibliographic information in notes and, often, a bibliography.

Material Type	Notes/Bibliography Style
A book in print	Note Style: 1. Michael Pollan, *The Omnivore's Dilemma: A Natural History of Four Meals* (New York: Penguin, 2006), 99–100. Duplicate Note: 2. Pollan, *Omnivore's Dilemma*, 3. Bibliography: Pollan, Michael. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin, 2006.
An article in a print journal	Note Style: 1. Joshua I. Weinstein, "The Market in Plato's *Republic*," *Classical Philology* 104 (2009): 440. Duplicate Note: 2. Weinstein, "Plato's *Republic*," 452–53. Bibliography: Weinstein, Joshua I. "The Market in Plato's *Republic*." *Classical Philology* 104 (2009): 439–58.
An article in an electronic journal	Note Style: 1. Gueorgi Kossinets and Duncan J. Watts, "Origins of Homophily in an Evolving Social Network," *American Journal of Sociology*

	115 (2009): 411, accessed February 28, 2010, doi:10.1086/599247. Duplicate Note: Kossinets and Watts, "Origins of Homophily," 439. Bibliography: Kossinets, Gueorgi, and Duncan J. Watts. "Origins of Homophily in an Evolving Social Network." *American Journal of Sociology* 115 (2009): 405–50. Accessed February 28, 2010. doi:10.1086/599247.
A website	Note Style: 1."Google Privacy Policy," last modified March 11, 2009, http://www.google.com/intl/en/privacypolicy.html. Duplicate Note: "Google Privacy Policy." Bibliography: Google. "Google Privacy Policy." Last modified March 11, 2009. http://www.google.com/intl/en/privacypolicy.html.

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignments TMA)

7.0 References/Further Reading

- Written by Mariel Lorenz. This guide for APA was adapted from: Hacker, D. (2003). *A Writer' Reference* (5th ed.). Boston: St. Martin's.

- American Psychological Association. (2001). Publication Manual of the *American Psychological Association* (5th ed.). Washington, DC: American Psychological Association.

- Hacker, D. A Writer's Reference. (2003). (5th ed.). Boston: St. Martin's. American Psychological Association. (2001).

- Publication Manual of the American Psychological Association. (5th ed.). Washington, DC: American Psychological Association.

- Troyoka, L. Q. *Quick Access: Reference for Writers.* (1998). (2nd ed.). Upper Saddle River.

- Hacker, D. A Writer's Reference. (2003). (5th ed.) Boston: St. Martin's.

- Harnack, A. & Kleppinger, E. (1996). Online! A reference guide to internet sources. New York: St. Martin's.

Unit 4: Documentation and Referencing: the Modern Language Association

1.0 Introduction

2.0 Objectives

3.0 Main Contents – the Modern Language Association (MLA Style)

How to cite Books in MLA

For most books, arrange information into three units, each followed by a period and one space: author's last name, first name; title and subtitle, underlined or italicized; place of publication, the publisher, and the date.

1. the author's last name, first name
2. the title and subtitle, underlined or italicized
3. the place of publication, the publisher, and the date
4. the medium: print.

Book by one author

- Tompkins, Jane. *West of Everything: The Inner Life of Westerns*. New York: Oxford UP, 1992. Print.
-

Book by two or three authors

Name the authors in order in which they are presented on the title page. Reverse the name of only the first author.

- Rico, Barbara, and Sandra Mano. *American Mosaic: Multicultural Readings in Context*. Boston: Houghton, 1991. Print.

Books with four or more authors

Cite only the first author whose name is listed last name and then first name followed by "et al." (Latin for "and others").

- Medhurst, Martin J., et al. *Cold War Rhetoric: Strategy, Metaphor, and Ideology*. New York: Greenwood, 1990. Print.

Editors

After the name or names, use the abbreviation “ed.” for “editor” or “eds.” for “editors.”

- Anaya, Rodolfo, and Francisco Lomeli, eds. *Aztlan: Essays on the Chicano and Homeland*. Albuquerque: Academia-El Norte, 1989. Print.

Unknown author

Begin with the title, since there is no author. Alphabetize the entry by the first word of the title other than a, an , or the.

- *The Times Atlas of the World*. 9th ed. New York: Times, 1992. Print.

Author with an editor

Begin with the author and title, followed by the name of the editor. In this case the abbreviation “Ed.” means “Edited by,” so it is the same for one of multiple editors.

- Wells, Ida B. *The Memphis Diary*. Ed. Miriam DeCosta-Willis. Boston: Beacon, 1995. Print.

Translation

List the entry under the name of the author, not the translator. After the title, write “Trans.” (for “Translated by”) and the name of the translator.

- Mahfouz, Naguib. *Arabian Nights and D’s*. Trans. Denys Johnson-Davies. New York: Doubleday, 1995. Print.

Corporate author

List the entry under the name of the corporate author, even if it is also the name of the publisher.

- Bank of Boston. *Bank by Remote Control*. Boston: Bank of Boston, 1997. Print.

Two or more works by the same author

If your list of works cited includes two or more works by the same author, use the author's name only for the first entry. For the subsequent entries use three hyphens followed by a period. The three hyphens must stand for exactly the same name or names as in the preceding entry. List the titles in alphabetical order.

- Atwood, Margaret. *Alias Grace: A Novel*. New York: Doubleday, 1996. ---. The Robber Bride. New York: Doubleday, 1993. Print.

Encyclopedia or dictionary

Articles in well-known dictionaries and encyclopedias are handled in abbreviated form. Simply list the author of the article (if there is one), the title of the article, the title of the reference work, the edition number, if any, and the date of the edition.

- "Sonata." *Encyclopedia Britannica*. 15th ed. 1997. Print.

Volume and page numbers are not necessary because the entries are in alphabetical order and therefore are easy to locate. If a reference work is not well known, provide full publishing information as well.

Work in an anthology

Present the information in this order, with each item followed by a period: author of the selection; title of the selection; title of the anthology; editor of the anthology, preceded by "Ed." (meaning "Edited by"); city, publisher, and date; page numbers on which the selection appears.

- Malouf, David. "The Kyogle Line." *The Oxford Book of Travel Stories*. Ed. Patricia Craig. Oxford: Oxford UP, 1996. 390-96. print.

Citing Articles in Periodicals with MLA

The main parts of a periodical source are author, title of article, and publication information which can include the title of the periodical, the volume year, the year of publication, and inclusive page numbers.

Article in a monthly magazine

In addition to the author, the title of the article and the title of the magazine, list the month and year and the page numbers on which the article appears. Abbreviate the names of months except May, June, and July.

- Lukacs, John. "The End of the Twentieth Century." *Harper's* Jan. 1993: 39-58. Print.

Article in a weekly magazine

Handle articles in weekly (or biweekly) magazines as you do those for monthly magazines, but give the exact date of the issue, not just the month and year.

- Pierpont, Claudia Roth. "A Society of One: Zora Neale Hurston, American Contrarian." *New Yorker* 17 Feb. 1997: 80-86. Print.

Unsigned article in a newspaper or magazine

Use the same form you would use for an article in a newspaper or a weekly or monthly magazine, but begin with the title of the article.

- "Marines Charged in Assault Case." *Houston Chronicle* 14 Feb. 1998: B6. Print.

Letter to the editor

Cite the writer's name, followed by the word "Letter" and the publication information for the newspaper or magazine in which the letter appears.

- Peters, Tom. Letter. *New Yorker* 16 Feb. 1998: 13. Print.

Article in a journal paginated by volume

Many professional journals continue page numbers throughout the year instead of beginning each issue with page 1. At the end of the year, all of the issues are collected in a volume. Interested readers need only the volume number, the year, and the page numbers to find a particular article.

- Segal, Gabriel. "Seeing What is Not There." *Philosophical Review* 98 (1989): 189-214. Print.

Article in a journal paginated by issue

If each issue of the journal begins with page 1, you need to indicate the number of the issue. Simply place a period after the number of the volume, followed by the number of the issue

- Johnson, G. J. "A Distinctiveness Model of Serial Learning." *Psychological Review* 98.2 (1991): 204-17. Print.

Article in a daily newspaper

Begin with the author, if there is one, followed by the title of the article. Next give the name of the newspaper, the date, the section letter or number, and the page number.

- Sun, Lena H. "Chinese Feel the Strain of a New Society." *Washington Post* 13 June 1993: A1+. Print.

Citing MLA Online Materials - Details of citing online material

World Wide Website (www)

For citing an entire website, begin with (1) the name of the author or corporate author (if known) and (2) the title of the site, underlined. Then give (3) the names of any editors, (5) the name of any sponsoring organization, (6) the date published or last update, (7) medium of publication: web (8) the date of access. Provide as much of this information as possible.

Peterson, Susan Lynn. *The Life of Martin Luther*. 1999. Web. 13 April 2013.

Margaret Sanger Papers Project. New York U, 18 Oct. 2000. Web. 3 Apr. 2013.

For citing a shorter work within a website (articles, poems, and other documents that are not book length) include as many of the following elements as apply and as are available: (1) author's name; (2) title of the short work, in quotation marks; (3) title of the site, italicized; (4) sponsor of the website (5) date of publication or last update; (6) Medium of publication: web (7) date you accessed the source

> Shiva, Vandana. "Bioethics: A Third World Issue." *NativeWeb.* 15 Sept. 2001. Web. 13 April 2013.

Online Scholarly Project or Reference Database

For an online source accessed from within a larger scholarly project or reference database, begin with the author (if any) and title of the source, followed by any editors or translators. Use quotation marks for titles of short works such as poems and articles; underline or italicize book and periodical titles. Include publication information for any print version of the source before giving the title of the on-line project or database (underlined or italicized), followed by the author or editor of the project or database, the date of electronic publication (or latest update); page or paragraph numbers (if any); the name of any institution or organization sponsoring or associated with the site; and the date of access.

> Swift, Jonathan. "A Modest Proposal." 1729. *Eighteenth-Century Studies*. Ed. Geoffrey Sauer. *The English Server*. U of Washington, 7 Mar. 2001. Web. 3 April 2013.

> Jacobs, Harriet Ann. *Incidents in the Life of a Slave Girl*. Boston, 1861. *Documenting the American South: The Southern Experience in Nineteenth-Century America*. Edu. Ji-Hae Yoon and Natalia Smith. Academic Affairs Lib., U of North Carolina, Chapel Hill, 1998. Web. 3 March 2013.

E-mail

For correspondence received via electronic mail, include the author, the subject line (if any) in quotation marks, and the word "E-mail" followed by the recipient and the date of the message.

Schubert, Josephine. “Re: Culture Shock,” E-mail to the author. 14 Mar. 1998.

CD-ROM

Some works on CD-ROM, such as dictionaries and encyclopedias, are released in single editions that are not updated periodically. Treat such sources as you would a book, but give the medium (“CD-ROM”) before the publication information.

Sheehy, Donald, ed. *Robert Frost: Poems, Life, Legacy*. CD-ROM. New York: 1997.

Documenting MLA within the text

- The MLA’s in-text citations are made with a combination of signal phrases and parenthetical references.

Citations in parentheses should be concise yet complete enough so that readers can find the source on your Works Cited page at the end of the paper.

Signal Phrase

Use a **signal phrase** to lead into the quotation or borrowed information. Then use a **parenthetical citation** directly after the quotation or borrowed information.

Author Named in a Signal Phrase

You can use the author’s name in a signal phrase. This allows you to:

- Prepare readers for a change of voice
- Keep the parenthetical citation brief

Flora Davis reports that a chimp at the Yerkes Primate Research Center “has combined words into new sentences that she was never taught” (67).

Note the signal phrase—Flora Davis reports that—and the parenthetical citation containing the page number. And note that the period goes after the parenthetical citation.

Author Not Named in a Signal Phrase
If you choose not to put the author's name in the signal phrase, or if you don't use a signal phrase, then the author's last name must appear in parentheses along with the page number.

> Although the baby chimp lived only a few hours, Washoe signed to it before it died. (Davis 42).

Note that you must cite the source here because you are using a fact from Davis' book.

Sometimes the idea or information you are borrowing represents the entire theory or perspective of your source; in other words, it's not confined to specific pages. In that case, the page number can be omitted from the parenthetical citation.

An Indirect Source
When a writer's or speaker's quoted words appear in a source written by someone else, begin the citation with the phrase "qtd. in".

> "We only used seven signs in his presence," says Fouts. "All of his signs were learned from the other chimps" (qtd. in Toner 24).

This tells the reader that you got the Fouts quote from page 24 of Toner.

Quotation Four Lines or Longer
Long quotations are **block indented** ten spaces, quotation marks are omitted, and no period is used after the citation.

> Desmond describes how Washoe tried signing to the other apes when the Gardners returned her to an ape colony in Oklahoma:
>
> > One particularly memorable day, a snake spread terror through the castaways on the ape island, and all but one fled in panic. This male sat absorbed, staring intently at

> the serpent. Then Washoe was seen running over signing to him "come, hurry up." (42)

Altering a Quote

When using a direct quote in which you *insert a word of your own*, place square brackets [ ] around the word you have inserted.

> Robert Seyfarth reports that "Premack [a scientist at the University of Pennsylvania] taught a seven-year-old chimpanzee, Sarah, that the word for 'apple' was a small, plastic triangle." (13).

If you *delete part of a quote*, use ellipsis dots . . . to indicate where you have deleted from the original source.

> In a recent *New York Times* article, Erik Eckholm reports that "a 4 year-old pygmy chimpanzee. . . has demonstrated what scientists say are the most human like linguistic skills ever documented in another animal." (A1).

Watch Those Transitions

In a small band, you can hear the individual musical instruments, even though they work together to create a unified song. In a research paper, readers also have to be able to recognize the words or ideas that belong to others. But they also want to read a smooth and unified piece of writing. To achieve this, pay close attention to your transitions.

All information written on this page has been excerpted from the official handbook of the IUP writing center:

Gibaldi, Joseph. MLA Handbook for Writers of Research Papers. *6th ed. New York: MLA, 2003*

Hacker, Diana. A Writer's Reference. 5th ed. Boston: St. Martin's, 2003.

The Works Cited Page/Bibliography

- A list of works cited, which appears at the end of your paper, gives full publishing information for each of the sources you have cited in the paper. Start on a new page and title your list Works Cited. Then list in *alphabetical order* all the sources that you have cited in the paper. Unless your instructor asks for them, sources not actually cited

in the paper should not be given in this list, even if you have read them.

How to Alphabetize Your Print Sources

- When using MLA style, organize your Works Cited by the last names of the authors (or editors).
- If a work has no author or editor, alphabetize by the first word of the title other than *a, an,* or *the*.

Remember

- The phrase "Works Cited" is centered at top of the page in regular formatting.
- Use double-spacing throughout.
- First line of each entry is at left margin; subsequent lines are indented ½" or five spaces (use MS Word hanging indent).
- For each entry in the Works Cited, there should be a corresponding citation in the essay text.

On-line Journal

Note: The first date is the website's date of creation or latest update while the second date is the day the writer accessed the page.

Baucom, Ian. "Charting the Black Atlantic." *Postmodern Culture* 8.1 (1997): 28 pars. Web. 13 April 2013.

Website

California Wildlife Protection Coalition. *California Mountain Lion Page*. Sierra Club, 24 March 1999. Web. 13 April 2013.

Journal

Dennis, Carl. "What Is Our Poetry to Make of Ancient Myths?" *New England Review* 18.4 (1997): 128-40. Print.

Book

Hansen, Kevin. *Cougar: The American Lion*. Flagstaff: Northland, 1992. Print.

"Lion Attacks Prompt State to Respond." *New York Times* 18 Oct. 1995, late ed.: A21. Print.

Encyclopedia

"Lion." *Encyclopedia Britannica*. 15th ed. 1997. Print.

Anthology

Malouf, David. "The Kyogle Line." *The Oxford Book of Travel Stories*. Ed. Patricia Craig. Oxford: Oxford UP, 1996. 390-96. Print.

Newspaper

Perry, Tony. "Big Cat Fight." *Los Angeles Times* 8 Mar. 1996, home ed.: B1+. Print.

Video

Primates. Wild Discovery. Discovery Channel. Boston, 23 Mar. 1998. Television.

Updike, John. *In the Beauty of the Lilies*. Knopf, 1996. Film.

---. *Toward the End of Time*. Knopf, 1997. Film.

Youtube Video

Shimabukuro, Jake. "Ukulele Weeps by Jake Shimabukuro." Online video clip. *YouTube*. YouTube, 22 Apr. 2006. Web. 10 April 2013.

Tweets

Obama, Barack (BarackObama). "It's up to all of us—the people—to stand up to those who say we can't and stand up for the change we need." 8 April 2013, 6:12 p.m. Tweet.

E-mails

Smith, David. "Re: How to Write in MLA." Message to Joe Brown. 10 Dec. 2012. E-mail.

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignments (TMA)

7.0 References/Further Reading

- Kathleen Jones White Writing Center, College of Humanities and Social Sciences, Indiana University of Pennsylvania, "Research and Documentation" available at: https://www.iup.edu/writingcenter/writing-resources/research-and-documentation/ retrieved December 04, 2020.
- Written by Mariel Lorenz. This guide for APA was adapted from: Hacker, D. (2003). *A Writer' Reference* (5th ed.). Boston: St. Martin's.
- American Psychological Association. (2001). Publication Manual of the *American Psychological Association* (5th ed.). Washington, DC: American Psychological Association.
- Hacker, D. A Writer's Reference. (2003). (5th ed.). Boston: St. Martin's. American Psychological Association. (2001).
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- Troyoka, L. Q. *Quick Access: Reference for Writers.* (1998). (2nd ed.). Upper Saddle River.
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- Harnack, A. & Kleppinger, E. (1996). Online! A reference guide to internet sources. New York: St. Martin's.

Unit 5: Documentation and Referencing: the American Psychological Association

1.0 Introduction
2.0 Objectives
3.0 **Main Contents – the American Psychological Association**
4.0 Conclusion
5.0 Summary
6.0 Tutor Marked Assignments (TMA)

7.0 References/Further Reading

1.0 Introduction

APA is the style of documentation of sources used by the American Psychological Association. This form of writing research papers is used mainly in the humanities and social sciences, as well as education and other fields.

2.0 Objectives

In this unit we are going to look at how researcher can set up a paper in APA style. Specifically, we are shall look at citing books and journal articles within research paper. However, we will also look at how online resources are cited.

3.0 Main Contents – the American Psychological Association (APA)

How Does APA Style Work?

When working with APA there are two things to keep in mind: in-text citations and the reference page. In-text citations will use the author's name and the date within the research paper. These citations will refer back to the reference page at the end, which lists all the sources that researcher may have used in the research paper.

When Would Researcher Have to Cite a Source in APA?

Anytime we summarize, paraphrase, or quote information from another source, like passages from books or articles in an academic journal, we are required to list within the text, the author's name and the year the article was published. There are a couple of ways this can be arranged.

Example:

Another theory came from the idea of the "matching hypothesis." This was presented by Goffman (1952), who believed that men had the tendency to choose spouses who were of similar social status. The sums of these attributes include social skills, wealth, power, intelligence, attractiveness, and other skills that are valued in society.

With the example above, the writer puts the author's last name in the text and immediately after it puts the date in parentheses.

- *In 1971 Berscheid, Dion, Walster, and Walster conducted another "computer date" dance. This time they paired similar attractive persons together for the date. An independent panel of judges assessed the attractiveness of each of the subjects.*

Here, the authors' names and the date of publication are both put into the body of the text, without using parentheses.

Citing a Journal Article

If citing a journal article in the body of text, does it mean that the authors of that journal article agree with the arguments in the paper?

No, not necessarily. Dr. Sadler, a professor in the psychology department at IUP, states that we can cite articles that will agree or disagree with our ideas. He goes on to say:

- *The agreement or disagreement should be conveyed by your wording. For example, "This interpretation is consistent with findings by Smith and Jones (1999) . . . ." Or, you might say, "If my prediction is confirmed, it would falsify the theory of episodic memory proposed by Tulving (1984)" Or, "A number of researchers do not agree with this view (e.g., Brown, 1993; Stevens, 1992; Treisman, 1994)."*

So, not only can we use journal articles to support ideas, but we can also use them to show that some authors do not agree with our ideas or have ideas different from ours.

Preparing to Cite a Source

How do we let the reader know that we are about to cite a source?

To let the reader know that a journal article is about to be cited in the body of our paper, we can use signal phrases that are appropriate for the ideas we want to express. These words include: *adds, argues, claims, denies, illustrates, grants, notes, observes, suggests,* etc. We could also use the standard "said."

This is expressed in the sample below:

- In an influential article, Terrace, Petitto, Sanders and Bever (1979) **argued** that the apes in the language experiments were not using language spontaneously but were merely imitating their trainers, responding to conscious or unconscious cues.

References Page

What is the References page and how is it put together?

The References page lists all the sources we have cited in our paper. The entry for a journal article should look like this:

- Berscheid, E., Dion, K. K., Walster, E., and Walster, G. W. (1971). "Physical attractiveness and dating choice: A test of the matching hypothesis." *Journal of Experimental Social Psychology*, 7, 173-189.

As we can see in the example above, the authors' names appear first (last name, first name). Then the year of publication is given in parentheses. Then the title is listed (with only the first word of the title, the first word after the colon, and proper nouns capitalized). Then the name of the journal (in italics) is listed, the volume number, and finally, the pages of the article.

For a book, the entry looks like this:

- Schaller, G. B. (1993). *The Last Panda*. Chicago: University of Chicago Press.

In the example above, the author's name is listed (last name, first name), then the date, followed by the title with only the first word capitalized, the city of publication, and then the name of the publisher.

How to Cite Books in APA

- Citations for books have four main parts: author, date, title, and publication information (place of publication and publisher). Each part ends in a period followed by a space.

Book by one author

- Welty, E. (1994). *One Writer's Beginnings*. Cambridge: Harvard University Press.

Books with two or more authors

- Leghorn, L., & Parker, K. (1981). *Woman's Worth*. Boston: Routledge & Kegan Paul.

One selection from an edited book

Provide full reference information for each selection cited from a collection, using In to show the larger work from which the selection is taken. (The abbreviation for one editor is Ed.)

- Kingston, M. H. (1985). No Name Woman. In S. Gilbert & S. Gubar (Eds.), *The Norton Anthology of Literature by Women*, (pp 12-15). New York: W. W. Norton.

Unknown author

Begin with the title. Alphabetize the entry by the first word of the title other than a, an , or the.

- *The Chicago Manual of Style* (14th ed.). (1993). Chicago:University of Chicago Press.

Documenting APA within the Text

- The APA's in-text citations identify a source by a name (usually an author name) and a year (for print sources, usually the copyright year). You can often incorporate the relevant name, and sometimes the year, into your sentence. Otherwise, put this information into parentheses.

If you refer to a work more than once in a paragraph, give the author name and date at first mention and then give only the name after that. The exception is when you have more than one work by the same author.

Citations of Paraphrases

Author Named in a Signal Phrase

You can introduce the material being cited with a signal phrase that includes the author's name. The signal phrase allows you to:

- Prepare readers for the source
- Keep the parenthetical citation brief

Example

Desmond Morris (1977) notes that people from the Mediterranean prefer an elbow-to-shoulder distance from each other.

Author Not Named in a Signal Phrase
Put the name of the author and date of publication whenever you paraphrase material.

Note that you have to cite the source here even though you are not using a direct quote.

Example
People from the Mediterranean prefer an elbow-to-shoulder distance from each other (Morris, 1977).

Citations of Direct Quotations
In APA, the citation of a direct quote not only includes the author and date, but also the page reference.

Author Named in a Signal Phrase
Put the name, date, and the page reference in parentheses immediately following the quotation.

Example
A recent report of reductions in SAD-related "depression in 87 percent of patients" (Binkley, 1990, p. 203) reverses the findings of earlier studies.

Author Not Named in a Signal Phrase
When the author's name will be incorporated into the words introducing the quotation, the date is placed immediately after the author's name. The page number will be in parentheses immediately following the quotation.

Example
Binkley (1990) reports reductions in SAD-related "depression in 87 percent of patients" (p. 203).

Other Citations
Quotation Forty Words or Longer

Long quotations are block indented ten spaces; quotation marks are omitted; no period is used after the citation.

Example
Jet lag is a common problem among those who travel great distances by jet airplane to different time zones:

Jet lag syndrome is the inability of the internal body rhythm to rapidly resynchronize after sudden shifts in the timing. For a variety of reasons, the system attempts to maintain stability and resist temporal change. (Bonner, 1991, p. 72)

Citation of a Work Discussed in a Secondary Source
If you mention the secondary source in the text, put "as cited in". followed by the primary source. If you do not mention the secondary source in the text, put the secondary source author(s) followed by "as cited in" and then list the primary source.

Example
In the Smith (as cited in Miller, 1996) study, the researcher discovered some positive evidence.

The second passage was a 161-word poem by Richard Eberhart titled "Seals, Terns, Time" (as cited in Brown & Milstead, 1975).

Additional Studies
In APA, you can list relevant studies even if you do not discuss them. By including these studies in your text, you allow the reader to find other studies if they need more information.

To list these studies, put e.g., followed by the studies listed alphabetically by author's last name.

Example
A growing body of research had indicated that variations of electrical activity from the brain can be used to identify a person's manner of processing information (e.g., Davidson & Schwartz, 1977; Doktor & Bloom, 1977).

Citing Online with APA

A computer network, such as the Internet, provides access to material such as journal articles, newsletters, and even entire books.

World Wide Web Site

Provide the following information:

- author's name (if known)
- date of publication or last revision (if known), in parentheses (year, month, day)
- title of document
- title of complete work (if applicable), in italics
- the word "Retrieved" followed by the date you accessed the source (month, day, year)
- the word "from" followed by the URL

Example

Harris, J. G. The return of the witch hunts. *Witchhunt Information Page*. Retrieved May 28, 1996, from <http://liquid2-sun.mit.edu/fells.short.html>.

An Article from a Database

Provide the following information:

- cite as you would a normal periodical or book
- The number of pages or paragraphs, followed by "p." (or "pp.") or "par." (or "pars."); if neither is specified, use "n. page." for "no pagination."
- the word "Retrieved" followed by the date you accessed the source
- the word "from" followed by the title of the database

Example

Borman, W. C., Hanson, M.A., Oppler, S. H., Pulakos, E. D., & White, L. A. (1993). Role of early supervisory experience in supervisor performance. *Journal of Applied Psychology*, 78, 443-449. Retrieved October 23, 2000, from PsycARTICLES database.

The Reference Page

- The Reference list provides information for readers who may want to access the sources you cite in your paper. The Reference page is located at the end

of your paper. Start a new page and title your list Reference. Then list in **alphabetical order** all the sources that you have cited in the paper. Unless your instructor asks for them, sources not actually cited in the paper should not be given in this list, even if you have read them.

How to alphabetize print sources

- Organize your Reference page by the last names of the authors (or editors).
- If a work has no author or editor, alphabetize by the first word of the title other than *a*, *an*, or *the.*
- Arrange same author sources using their last names every time. Arrange chronologically by date of publication

Remember

- "References" is centered at the top of the page
- Double spacing is used throughout
- Use a hanging indent, so that the first line is at the margin and all following lines are indented.

Website

Harris, J. G. The return of the witch hunts. *Witchhunt Information Page*. Retrieved May 28, 1996 from <http://liquid2-sun.mit.edu/fells.short.html>.

Newspaper

Booth, W. (1990, October 29). Monkeying with language: Is chimp using words or merely aping handlers? *The Washington Post*, p. A3.

Journal

Gibbons, A. (1991). Déjà vu all over again: Chimp-language wars. *Science*, 251,1561-1562.

Klimoski, R., & Palmer, S. (1993). The ADA and the hiring process in organizations. *Consulting Psychology Journal: Practice and Research*, 45(2), 10-36.

Anthology

Parker & K. R. Gibson (Eds.). (2000). *"Language" and intelligence in monkeys and apes: Comparative developmental perspectives* (pp.540-578). Cambridge: Cambridge University Press.

Book

Leakey, R., & Lewin, R. (1992). *Origins reconsidered: In search of what makes us human*. New York: Doubleday.

Magazine

Lewin, R. (1991, April 29). Look who's talking now. *New Scientist*, 130, 49-52.

Video

National Geographic Society (Producer). (1987). *In the Shadow of Vesuvius* [Videotape]. Washington, DC: National Geographic Society.

Note: Cite material from an information service or database as you would any other material including all publishing information. At the end add the name of the service (i.e. Ask Eric) and the number the service assigns to the material.

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignments (TMA)

7.0 References/Further Reading

- Written by Mariel Lorenz. This guide for APA was adapted from: Hacker, D. (2003). *A Writer' Reference* (5th ed.). Boston: St. Martin's.

- American Psychological Association. (2001). Publication Manual of the *American Psychological Association* (5th ed.). Washington, DC: American Psychological Association.

- Hacker, D. A Writer's Reference. (2003). (5th ed.). Boston: St. Martin's. American Psychological Association. (2001).

- Publication Manual of the American Psychological Association. (5th ed.). Washington, DC: American Psychological Association.

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- Harnack, A. & Kleppinger, E. (1996). Online! A reference guide to internet sources. New York: St. Martin’s.