STANDARDS FOR WRITING RESEARCH Bassey Anam et al

Standards FOR WRITING Research

Proposals
Grants and
Field Reports

AFRICAN RESEARCH COUNCIL ON SUSTAINABLE DEVELOPMENT

by

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Thinking Multi-disciplinary Research!

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Research is a general term which covers all kinds of studies designed to find responses to worthwhile questions by means of a systematic and scientific approach. It is a common parlance in academic and a life style to academia.

There are many different ways to carry out research but roughly speaking there are two main approaches, namely qualitative and quantitative. Qualitative studies concentrate mainly on words and meanings and aim to capture the richness and complexity of human experience, whereas, Quantitative studies involve recording information obtained from participants in numerical form so as to enable statistical analysis of the findings and the generalization of those findings to the wider population. Behind these two main approaches, there are important theoretical differences and philosophical assumptions about the nature of knowledge, truth and reality, how this should be recorded, what kinds of methods should be used and the role of the researcher in this process.

In the past, there were considerable debates about which approach was "right" and some people argued that the two approaches were incompatible. Nowadays, it is generally accepted that both approaches are valid and have their advantages and disadvantages. For this reason, many researchers adopt a pragmatic approach, simply using whichever method is best suited to answering their research questions and which might even involve a combination of both approaches within the same study. With this changing trend and complex nature of development issues, successful researchers think carefully and strategically about their skills, objectives and the areas in which they need to develop. This guide, **Thinking Multi-disciplinary Research**, written in a multi-disciplinary approach provides useful insights on how to develop and organize research papers, proposals, grants and field reports. Basic issues concerning editorials and publication ethics are also examined. It is intended to serve both the academic and non academic community; especially institutions involved in research activities.

Written in simple English to serve all class of research groups, it is designed to identify where your development needs are and to help you into addressing them. The examples provided are very explanatory. A careful study and application of the principles handed down in this guide by seasoned research experts will train, encourage and equip your capacity with new global techniques in carrying out academic research. Take advantage of this insight and improve your research skills.

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Section 1

General Description of Research Item

1.1 Meaning of Research
1.2 Importance of Research
1.3 Defining and Identifying a Research Problem
1.4 Choosing a Research Topic
1.5 Case Study in Research
1.6 Abstracts
1.7 Writing a Coherent Introduction for Academic Research
1.8 Literature Review
1.9 Design and Development of Theoretical and Conceptual Framework in Research
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1.17 Use of Computers and The Internet For Research Purpose
1.18 Writing A Scholarly And Academic Paper

1.1 Meaning of Research

Research has many definitions. Research simply means the systematic investigation into the study of materials and resources in order to establish facts and reach new conclusions. Research is a systematic inquiry to describe, explain, predict and control the observed phenomenon. Research involves inductive and deductive methods (Babbie, 1998). Inductive methods analyze the observed phenomenon and identify the general principles, structures, or processes underlying the phenomenon observed; deductive methods verify the hypothesized principles through observations. The purposes are different: one is to develop explanations, and the other is to test the validity of the explanations.

To research is to purposely and methodologically search for new knowledge and practical solutions in the form of answers to questions formulated beforehand. Research activity covers all kinds of studies designed to find responses to worthwhile questions by means of a systematic and scientific approach.

Research is an endeavor to study or obtain knowledge through the use of a systematic approach with the intent of clarification. Every research is built around three key features. These are:

1. Clearly articulated research questions to be addressed.
2. Specification of a research context for the questions and
3. Specification of appropriate research methods.

From the above definition, it is obvious that the fundamental starting point in writing and publishing academic and scholarly articles is to understand the objectives and the types of research. Gall, Borg and Gall (1996) proposed four types of knowledge that research has contributed to education to be as follows:

1. **Description:** Results of research can describe natural or social phenomenon, such as its form, structure, activity, change over time, relationship to other phenomena. The descriptive function of research relies on instrumentation for measurement and observations. The descriptive research results in our understanding of what happened. It sometimes produces statistical information about aspects of education.

2. **Prediction:** Prediction research is intended to predict a phenomenon that will occur at time Y from information at an earlier time X. In educational research, researchers have been engaged in:

   a. Acquiring knowledge about factors that predict students' success in school and in the world of work

   b. Identifying students who are likely to be unsuccessful so that prevention programs can be instituted.

3. **Improvement:** This type of research is mainly concerned with the effectiveness of intervention. The research approach includes experimental design and evaluation research.

4. **Explanation:** This type of research subsumes the other three: if the researchers are able to explain an educational phenomenon, it means that they can describe, can predict its consequences, and know how to intervene to change those consequences.

1.2 Importance of Research

The main importance of research is to produce knowledge that can be applied outside a research setting. Patton (1990) pointed out the importance of identifying the purpose in a research process. He classified four types of research based on different purposes:

1. **Basic Research:** The purpose of this research is to understand and explain, i.e. the research is interested in formulating and testing theoretical construct and propositions that ideally generalize across time and space. This type of research takes the form of a theory that explains the phenomenon under investigation to give its contribution to knowledge. This research is more descriptive in nature exploring what, why and how questions.

2. **Applied Research:** The purpose of this research is to help people understand the nature of human problems so that human beings can more effectively control their environment. In other words, this type of research pursues potential solutions to human and societal problems.

3. **Evaluation Research** summative and formative: Evaluation research studies the processes and outcomes aimed at attempted solution. The purpose of formative research is to improve human intervention within specific conditions, such as activities, time and groups of people; the purpose of summative evaluation is to judge the effectiveness of a program, policy or product.
4. **Action Research:** Action research aims at solving specific problems within a program, organization or community. Patton (1990) described that design and data collection in action research tends to be more informal and the people in the situation are directly involved in gathering information and studying themselves.

1.3 Defining and Identifying a Research Problem

To identify a research problem is the first step in a scientific method for conducting a research. A research problem is a statement about an area of concern, a condition to be improved, a difficulty to be eliminated or a troubling question that exists in scholarly literature, in theory or in practice that points to the need for meaningful understanding and deliberate investigation. In some social science disciplines the research problem is typically posed in the form of a question. A research problem does not state how to do something, offer a vague or broad proposition or present a value question. The purpose of a problem statement is to:

1. Introduce the reader to the importance of the topic being studied. The reader is oriented to the significance of the study and the research questions or hypotheses to follow.
2. Places the problem into a particular context that defines the parameters of what is to be investigated.
3. Provides the framework for reporting the results and indicates what is probably necessary to conduct the study and explain how the findings will present this information.

A successful research project depends upon how well an investigator formulates the research question based on the problems faced in day-to-day research activities. The underlying questions of a research project provides important information to decide whether the topic is relevant, researchable and significant. A well-formulated research

question needs extreme specificity and preciseness which guides the implementation of the project keeping in mind the identification of variables and population of interest. To initiate a research, there should be pre-occurred ideas that generated the necessity for the research to be carried out. The ideas are developed while going through literatures, discourses with experts and continuation of activities related to the subject matter. These ideas develop into some specific topics that will be interesting or rewarding if investigated. These topics generally called problems.

Sources of Problems for Investigation

Identifying a problem to study can be challenging, not because there are lack of issues that could be investigated, but due to pursuing a goal of formulating a socially relevant and researchable problem statement that is unique and does not simply duplicate the work of others. To facilitate how you might select a problem from which to build a research study, consider these three broad sources of inspiration:

a. Deductions from Theory

This relates to deductions made from social philosophy or generalizations embodied in life in society that the researcher is familiar with. These deductions from human behavior are then fitted within an empirical frame of reference through research. From a theory, the research can formulate a research problem or hypothesis stating the expected findings in certain empirical situations. The research asks the question: "What relationship between variables will be observed if theory aptly summarizes the state of affairs?" One can then design and carry out a systematic investigation to assess whether empirical data confirms or rejects the hypothesis and hence the theory.

b. Interdisciplinary Perspectives

Identifying a problem that forms the basis for a research study can come from academic movements and scholarship originating in disciplines outside of your primary area of study. A review of pertinent literature should include examining research from related disciplines, which can expose you to new avenues of exploration and analysis. An interdisciplinary approach to selecting a research problem offers an opportunity to construct a more comprehensive understanding of a very complex issue other than any single discipline might provide.

c. Interviewing Practitioners

The identification of research problems about particular topics can arise from formal or informal discussions with practitioners who provide insight into new directions for future research and how to make research findings increasingly relevant to practice. Discussions with experts in this fields, such as, teachers, social workers, health care providers, etc., offers the chance to identify practical, "real world" problems that may be understudied or ignored within academic circles. This approach also provides some practical knowledge which may help in the process of designing and conducting any study.

d. Personal Experience

Your everyday experiences can give rise to worthwhile problems for investigation. Think critically about your own experiences and/or frustrations with an issue facing the society, your community, or in your neighborhood. This can be derived, for example, from deliberate observations of certain relationships for which there is no clear explanation or witnessing an event that appears harmful to a person or group.

e. Relevant Literature

The selection of a research problem can often be derived from an extensive and thorough review of pertinent research litereate with your overall area of interest. Literature may be reviewed to:

1) fill such gaps in knowledge;
2) evaluate if the methodologies employed in prior studies can be adapted to solve other problems; or,
3) determine if a similar study could be conducted in a different subject area or applied to different study sample [i.e., different groups of people]. Also, authors frequently conclude their studies by noting implications for further research; this can also be a valuable source of problems to investigate (Source, http://libguides.usc.edu/content.php?pid=83009&sid=618412).

1.4 Choosing a Research Topic

The ability to develop a good research topic is an important skill. A topic is the main organizing principle guiding the analysis of a research paper. Topics represent the core subject matter of scholarly communication and the means by which we arrive at other topics of conversations and discover new knowledge. However, selecting a topic is

possibly the most difficult part of doing research. Is it too big? Is it too narrow? Will I be able to find enough on it? It is important to take out time to read through literature; use reference sources (such as encyclopedias); consult other sources as suggested on the page find and read background information, etc. on the subject matter you intend to research on. This will help shape your intention and organize your thoughts. You will probably refine and refocus your topic several times before you finalize it. Answering these questions will help you develop a good research topic,

HOW?	How does the topic fit with respect to the field?
WHERE?	Where does the topic take place geographically or culturally?
WHEN?	When did your topic become important or of issue?
WHO?	Who are the people involved or affected?
WHY?	Why is the topic important?
WHAT?	What makes your research unique?

Simple guides to choosing a research topic

1. **Getting ideas for your topic:** Ideas can be gotten from the following areas,
    i. Course material: Go back over lecture notes or textbook chapters to find a topic.
    ii. Brainstorming: Take the general topic and create a concept map for it. From there you may find some aspect of the topic you would like to explore.
    iii. News: Yahoo News, CNN.com, local broadcast news all cover recent events and may pique your interest for further exploration of the story.
    iv. Past research papers: read through journal articles or projects
    v. Internet: There are many reliable educational and current event resources available on the Web that is an excellent source of idea for selecting research topics. Keep in mind that because of the open nature of the Web, many resources vary in quality.
2. **Choose an Interesting Topic:** There is more motivation to do a research assignment if there is genuine interest in the topic. If the research assignment is unrestricted, relate the topic to some personal experience or issue of personal

relevance. If you have no personal interest in the assigned topic, pick an aspect of the topic you are curious to know more about.

3. Narrow your topic. Depending upon the subject and required length of a research assignment, be careful not to choose a topic that is too broad in scope. Focus on a particular event, time, person, group and place. *"The Media's Influence on Body Image"*. Media comes in various forms such as television, advertisements, movies, and commercials. This topic would be too general and broad to research and cover in a short paper of 5-10 pages. Instead, it would be necessary to narrow the focus of the topic to some smaller aspect of media influence.

See this other example, *"The Impact of Current Fashion Magazine Advertisements on Female Adolescents' Body Identity"*. The topic has been narrowed and is more manageable because it focuses on a particular type of media (magazine advertisements), time (current rather than historic), person or group (adolescent female), and place (focus on U.S.).

4. Broaden your topic. If you are required to write a long paper (20 or more pages), there should be enough information available about the topic for the paper to be comprehensive and complete. If an obscure person, event or subject is chosen as the basis for a research topic, it may be difficult finding relevant and accessible material to do effective research. *"The Impact of Keira Knightley and Mila Kunis on the Body Image of Young Women"*

Yes, Keira Knightley and Mila Kunis are very famous actresses and many magazine articles have been written about their weight and the message it sends to young girls; but you are unlikely to find scholarly information available solely on the impact on the issue of body-image. You will need to broaden the focus to include what it represent in order to write an effective paper. For instance, *"The Impact of Movie Industry Beauty Standards on the Body Image of Young Women"*

Altering the focus of the subject matter from one person or issue to some larger aspect of the person or issue (the movie industry), expands the scope of the topic so that more

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Source: Weber State University: Stewart Library (http://library.weber.edu/ref/guides/howto/topicselection.cfm)

relevant and scholarly information can be found.
"Simple guides to choosing a research topic" is edited from the University of Buffalo Library. http://library.buffalo.edu/help/research-tips/topic/

1.5 Case Study in Research

A case study is a form of qualitative descriptive research that is used to look at individuals, a small group of participants, or a group as a whole. It provides or delimits the study to a particular focus. Case studies can provide very detailed information about a particular subject that it would not be possible to acquire through another type of experimentation.

Types of Case Studies

Under the more generalized category of case study exist several subdivisions, each of which is custom selected for use depending upon the goals and/or objectives of the investigator. These types of case study include the following:

1. **Illustrative Case Studies:** These are primarily descriptive studies. They typically utilize one or two instances of an event to show what a situation is like. Illustrative case studies serve primarily to make the unfamiliar familiar and to give readers a common language about the topic in question.
2. **Exploratory (or pilot) Case Studies:** These are condensed case studies performed before implementing a large scale investigation. Their basic function is to help identify questions and select types of measurement prior to the main investigation. The primary pitfall of this type of study is that initial findings may seem convincing enough to be released prematurely as conclusions.
3. **Cumulative Case Studies:** These serve to aggregate information from several sites collected at different times. The idea behind these studies is the collection of past studies that will allow for greater generalization without additional cost or time being expended on new, possible repetitive studies.
4. **Critical Instance Case Studies:** These examine one or more sites for either the purpose of examining a situation of unique interest with little to no interest in generalizability, or to call into question or challenge a highly generalized or universal assertion. This method is useful for answering cause and effect questions *(cited from* http://writing.colostate.edu/guides/page.cfm*)*.

1.6 Abstracts

An abstract is a concise summary of a larger project (a thesis, research report, performance, service project, etc.) that concisely describes the content and scope of the project and identifies the project's objective, its methodology, its findings, conclusions, or intended results.
An abstract summarizes, usually in one paragraph of 300 words or less, the major aspects of the entire paper in a prescribed sequence that includes:

1. The overall purpose of the study and the research problem(s) you investigated;
2. The basic design of the study;
3. Major findings or trends found as a result of your analysis; and,
4. A brief summary of your interpretations and conclusions.

Usually, an abstract is a one-paragraph summary of a research project. Abstracts precede papers in research journals and appear in programmes of scholarly conferences. In journals, the abstract allows readers to quickly grasp the purpose and major ideas of a paper and lets other researchers know whether reading the entire paper will be worthwhile. In conferences, the abstract is the advertisement that the paper deserves the attention of the audience.

An abstract is a self-contained, short and powerful statement that describes a larger work. An abstract is not a review, nor does it evaluate the work being abstracted. While it contains key words found in the larger work, the abstract is an original document rather than an excerpted passage.

Abstracts do vary from discipline to discipline, and sometimes within disciplines. Abstracts in the hard sciences and social sciences often put more emphasis on methods than do abstracts in the humanities; humanities abstracts often spend much more time explaining their objective than science abstracts do. However, even within single disciplines, abstracts often differ. It is important to often inquire about the expectations of an abstract in your discipline and make sure to ask for examples of abstracts from your field of study.

An ideal abstract has the following characteristics:

1. It should state the main objective and rationale of your project,
2. it should outline the methods you used to accomplish your objectives,
3. it should list your project's results or product (projected, intended results or product, if your project is not yet complete), and
4. it should draw conclusions about the implications of your project.

It must be written in a logical and stylistic manner. The abstract should be one paragraph and should not exceed the word limit. Edit it closely to be sure it meets the Four C's of abstract writing:

1. Complete — it covers the major parts of the project.
2. Concise — it contains no excess wordiness or unnecessary information.
3. Clear — it is readable, well organized and not too jargon-laden.
4. Cohesive — it flows smoothly between the parts.

Types of Abstracts

To begin, you need to determine which type of abstract you should include with your paper. According to the USC Libraries (2014), there are four general types.

1. Critical Abstract

A critical abstract provides, in addition to describing main findings and information, a judgment or comment about the study's validity, reliability, or completeness. The researcher evaluates the paper and often compares it with other works on the same subject. Critical abstracts are generally 400-500 words in length due to the additional interpretive commentary. These types of abstracts are used infrequently.

2. Descriptive Abstract

A descriptive abstract indicates the type of information found in the work. It makes no judgments about the work, nor does it provide results or conclusions of the research. It does incorporate key words found in the text and may include the purpose, methods and

scope of the research. Essentially, the descriptive abstract only describes the work being abstracted. Some researchers consider it an outline of the work, rather than a summary. Descriptive abstracts are usually very short, 100 words or less.

3. Informative Abstract

The majority of abstracts are informative. While they still do not critique or evaluate a work, they do more than describe it. A good informative abstract acts as a surrogate for the work itself. That is, the researcher presents and explains all the main arguments and the important results and evidence in the paper. An informative abstract includes the information that can be found in a descriptive abstract [purpose, methods, scope] but also includes the results and conclusions of the research and the recommendations of the author. The length varies according to discipline, but an informative abstract is rarely more than 300 words in length.

4. Highlight Abstract

A highlight abstract is specifically written to attract the reader's attention to the study. No pretense is made of there being either a balanced or complete picture of the paper and in fact, incomplete and leading remarks may be used to spark the reader's interest. In that, a highlight abstract cannot stand independent of its associated article, it is not a true abstract and therefore is rarely used in academic writing.

Writing Style

1. Use the active voice when possible, but note that much of your abstract may require passive sentence constructions. Regardless, write your abstract using concise, but complete sentences. Get to the point quickly and always use the past tense because you are reporting on research that has been completed.

2. Although it is the first section of your paper, the abstract, by definition, should be written last since it will summarize the contents of your entire paper. To begin composing your abstract, take whole sentences or key phrases from each section and put them in a sequence that summarizes the paper. Then revise or add connecting phrases or words to make it cohesive and clear. Before handing in your final paper. Check to make sure that the information in the abstract completely agrees with what you have written in the paper.

The Abstract SHOULD NOT contain:

1. Lengthy background information,
2. References to other literature [say something like, "current research shows that..." or "studies have indicated..."],
3. Using ellipticals [i.e., ending with "..."] or incomplete sentences,
4. Abbreviations, jargon or terms that may be confusing to the reader and
5. Any sort of image, illustration, figure, or table, or references to them.

The importance of writing abstracts in research cannot be overemphasized. The two most important reasons are selection and indexing. Abstracts allow readers who may be interested in a longer work to quickly decide whether it is worth their time to read it. Also, many online databases use abstracts to index larger works. Therefore, abstracts should contain keywords and phrases that allow for easy searching.

How do I write an abstract?

The format of your abstract will depend on the work being abstracted. An abstract of a scientific research paper will contain elements not found in an abstract of a literature article and vice versa. However, all abstracts share several mandatory components and there are also some optional parts that you can decide to include or not. When preparing to draft your abstract, keep the following key process elements in mind:

Key process elements:

1. *Reason for writing: w*hat is the importance of the research? why would a reader be interested in the larger work?
2. *Problem: w*hat problem does this work attempt to solve? What is the scope of the project? What is the main argument/thesis/claim?
3. *Methodology: a*n abstract of a scientific work may include specific models or approaches used in the larger study. Other abstracts may describe the types of evidence used in the research.
4. *Results: a*gain, an abstract of a scientific work may include specific data that indicates the results of the project. Other abstracts may discuss the findings in a more general way.

5. *Implications: w*hat changes should be implemented as a result of the findings of the work? How does this work add to the body of knowledge on the topic?

(This list of element is adapted with permission from Phil Koopman, "How to Write an Abstract" http://www.ece.cmu.edu/~koopman/essays/abstract.html.)

Identification of keywords

Keywords are written under the abstract. They provide additional information to key variables in the research study. Careful selection of keywords will mean that researchers are more likely to retrieve, read and cite the article. Keywords usually come from the major variables identified in the topic of the researcher's work and other major phenomenon to be discussed.

1.7 Writing a Coherent Introduction for Academic Research

In academic or any other research, the introduction serves the purpose of leading the reader from a general subject area to a particular field of research. It establishes the context of the research being conducted by summarizing current understanding and background information about the topic, stating the purpose of the work in the form of the hypothesis, question, or research problem, briefly explaining the rationale, methodological approach, highlighting the potential outcomes the study can reveal and describing the remaining structure of the paper.

A well-written introduction is important because, quite simply, it is an opportunity to a good first impression. The opening paragraph of the paper will provide the reader with their initial impressions about the logic of the arguments, writing style, overall quality of the research and, ultimately, the validity of findings and conclusions. A vague, disorganized, or error-filled introduction creates a negative impression. Whereas, a concise engaging and well-written introduction will start your readers off thinking highly of your analytical skills, your writing style and your research approach.

One of the basic ways of writing a good introduction is to engage the Reader. In other words, the overarching goal of your introduction is to make your readers want to read your paper. The introduction should grab your reader's attention. Strategies for doing this can be to:

1. Open with a compelling story,
2. Include a strong quotation or a vivid, perhaps unexpected antedote,
3. Pose a provocative or thought-provoking question,
4. Describe a puzzling scenario or incongruity, or
5. Cite a stirring example or case study that illustrates why the research problem is important.

In the broad sense of it, the introduction should begin with a supporting statement and end with a description of the hypothesis, which provides a direction for the study. This offers a theoretical context to a paper, allowing readers to understand the reasoning behind the work. Well-written introductions set the tone for the paper, catch the reader's interest and communicate the hypothesis or thesis statement.

Structure and Approach

According to USC Libraries University of California Research Guide (2014), the introduction is the broad beginning of the paper that answers three important questions for the reader:

1. What is this?
2. Why am I reading it?
3. What do you want me to think about / consider doing / react to?

Think of the structure of the introduction as an inverted triangle of information. Organize the information so as to present the more general aspects of the topic early in the introduction, then narrow toward the more specific topical information that provides context. Finally, arrive at your statement of purpose and rationale and, whenever possible, the potential outcome your study can reveal.

These are general phases associated with writing an introduction:

1. Establish an area to research by:
   a. Highlighting the importance of the topic, and/or
   b. Making general statements about the topic, and/or
   c. Presenting an overview on current research on the subject.

2. Identify a research niche by:
    a. Opposing an existing assumption, and/or
    b. Revealing a gap in existing research, and/or
    c. Formulating a research question or problem, and/or
    d. Continuing a disciplinary tradition.
3. Place your research within the research niche by:
    a. Stating the intent of your study,
    b. Outlining the key characteristics of your study,
    c. Describing important results, and
    d. Giving a brief overview of the structure of the paper.

NOTE: Even though the introduction is the first main section of a research paper, it is often useful to finish the introduction very late in the writing process because the structure of the paper, the reporting, analysis of results and the conclusion will have been completed, this ensures that your introduction matches the overall structure of your paper.

Types of Introduction

Research is a broad activity and various disciplines have their style of writing, this constraint the ability to clearly distinguish the various/many types of introduction in research that scholars may enumerate. However, within the context of this review, there are basically two types of introduction in scholarly and academic writing.

1. Integrated introduction
2. Separate introduction.

Whereas the integrated introduction incorporates literature review and is used especially in writing journal articles, the separate introduction appears on a separate chapter different from that of the literature review and is mostly used in the writing of thesis and dissertations.

USC Libraries University of California Research Guide (2014), http://www.usc.edu/libraries

The Integrated introduction also differs from the Separate Introduction in that it depends heavily on literature as evidence to provide specific support for the points made; while the separate introduction, on the other hand provides an overview of the important points and trends in the available literature without getting too specific since the details would be presented later in the second chapter.

In all, most researchers agree that the following features should be crucial in determining the criteria for a good introduction in scholarly writing:

1. Introduce or identify a specific problem area.
2. Establish the importance of the problem area.
3. Provide conceptual definition of key terms.
4. Provide an overview of the important points and trends in the literature read.
5. Describe relevant theory where applicable.
6. State the purpose and rationale for the study.
7. Highlight the need for the study and its implications.

1.8 Literature Review

Sometimes seen as a source of secondary data, a literature review is an account of what has been published on a topic by accredited scholars and researchers. Not to be confused with a book review, a **literature review** surveys scholarly articles, books and other sources (e.g. dissertations, conference proceedings) relevant to a particular issue, area of research or theory, providing a description, summary and critical evaluation of each work. The purpose is to offer an overview of significant literature published on a topic. The review, like other forms of expository writing, has an introduction, body and conclusion, well-formed paragraphs and a logical structure.

A literature review may be purely descriptive, as in an annotated bibliography, or it may provide a critical assessment of the literature in a particular field, stating where the weaknesses and gaps are, contrasting the views of particular authors, or raising questions. Such a review will not just be a summary but will also evaluate and show relationships between different materials, so that key themes emerge. Even a descriptive review however should not just list and paraphrase, but should add comment and bring out themes and trends.

A literature review surveys scholarly articles, books and other sources relevant to a particular issue, area of research or theory and by so doing, provides a description, summary and critical evaluation of these works. Literature reviews are designed to provide an overview of sources you have explored while researching a particular topic and to demonstrate to your readers how your research fits into the larger field of study (USC Libraries, 2014).

A literature review gives an overview of the field of inquiry: what has already been said on the topic, who the key writers are, what the prevailing theories and hypotheses are, what questions are being asked, what methodologies and methods are appropriate and useful. A critical literature review shows how prevailing ideas fit into your thesis and how your thesis agrees or differs from them. Literature reviewed typically includes scholarly journals, scholarly books, authoritative databases and primary sources. Sometimes it includes newspapers, magazines, other books, films, and audio and video tapes, and other secondary sources of data.

a. Primary sources are the origin of information under the study of fundamental documents relating to a particular subject or idea. Often they are firsthand accounts written by a witness or researcher at the time of an event or discovery. These may be accessible as physical publications, as publications in electronic databases, or on the Internet.

b. Secondary sources are documents or recordings that relate to or discuss information originally presented elsewhere. These, too, may be accessible as physical objects or electronically in databases or on the Internet.

All good research writing is guided by a review of the relevant literature. The literature review is the mechanism by which research is viewed as a cumulative process. That makes it an integral component of the scientific process.

In reviewing literature, it is important to note that citing of and giving credit to earlier works add value. It is perceived as part of the researcher's scientific and scholarly responsibility that is required for the development of the body of science. This does not imply the inclusion of an exhaustive historical review of literature since the readers of scholarly writing are assumed to be somewhat familiar and knowledgeable about the subject matter.

The following key points must be reflected in a good literature review. These are:

1. Relevance
2. Importance
3. Logicality
4. Current
5. Distinguish between Premises from theory and research findings.
6. Distinguish between opinions and research findings.
7. Provide a critical analysis
8. Comprehensiveness and appropriateness
9. Facilitating coherence in the introduction and literature review.
10. Use of logical transitions
11. Logical flow of problem statement, research questions or hypotheses from the points expressed earlier in the introduction.

Importance of a Good Literature Review

A literature review may consist of a simple summary of key sources, but it usually has an organizational pattern and combines both summary and synthesis, often within specific conceptual categories. A summary is a recap of the important information of the source but a synthesis is a re-organization or a reshuffling, of an information in a way that informs how you are planning to investigate a research problem. The analytical features of a literature review might:

1. Give a new interpretation of old material or combine new with old interpretations,
2. Trace the intellectual progression of the field, including major debates,
3. Depending on the situation, evaluate the sources and advise the reader on the most pertinent or relevant, or
4. Usually in the conclusion of a literature review, identify where gaps exist in how a problem has been researched to date.

The purpose of a literature review is to:

1. Place each work in the context of its contribution to the understanding of the research problem being studied,

2. Describe the relationship of each work to the others under consideration,
3. Identify new ways to interpret and shed light on any gaps in previous research,
4. Resolve conflicts amongst seemingly contradictory previous studies,
5. Identify areas of prior scholarship to prevent duplication of effort,
6. Point the way in fulfilling a need for additional research, and
7. Locate your own research within the context of existing literature.

Types of Literature Reviews

It is important to think of knowledge in a given field as consisting of three layers.* First, there are the primary studies that researchers conduct and publish. Second are the reviews of those studies that summarize and offer new interpretations built from and often extending beyond the original studies. Third, there are the perceptions, conclusions, opinion and interpretations that are shared informally that become part of the lore of field. In composing a literature review, it is important to note that it is often this third layer of knowledge that is cited as "true" even though it often has only a loose relationship to the primary studies and secondary literature reviews. Given this, while literature reviews are designed to provide an overview and synthesis of pertinent sources you have explored, there are a number of approaches you could adopt depending upon the type of analysis underpinning your study.

The USC Libraries (2014) offers details on the various types of literature reviews worth noting.

1. Argumentative Review

This form examines literature selectively in order to support or refute an argument, deeply imbedded assumption or philosophical problem already established in the literature. The purpose is to develop a body of literature that establishes a contrarian viewpoint. Given the value-laden nature of some social science research [e.g., educational reform; immigration control], argumentative approaches to analyzing the literature can be a legitimate and important form of discourse. However, note that they can also introduce problems of bias when they are used to make summary claims of the sort found in systematic reviews.

2. Integrative Review

Considered a form of research that reviews, critiques and synthesizes representative literature on a topic in an integrated way such that new frameworks and perspectives on the topic are generated. The body of literature includes all studies that address related or identical hypotheses. A well-done integrative review meets the same standards as primary research in regard to clarity, rigor and replication.

3. Historical Review

Few things rest in isolation from historical precedent. Historical reviews are focused on examining research throughout a period of time; often starting with the first time an issue, concept, theory, phenomena emerged in the literature, then tracing its evolution within the scholarship of a discipline. The purpose is to place research in a historical context to show familiarity with state-of-the-art developments and to identify the likely directions for future research.

4. Methodological Review

A review does not always focus on what someone said [content], but how they said it [method of analysis]. This approach provides a framework of understanding at different levels (i.e. those of theory, substantive fields, research approaches and data collection and analysis techniques), enables researchers to draw on a wide variety of knowledge ranging from the conceptual level to practical documents for use in fieldwork in the areas of ontological and epistemological consideration, quantitative and qualitative integration, sampling, interviewing, data collection and data analysis, and helps highlight many ethical issues which we should be aware of and consider as we go through our study.

5. Systematic Review

This form consists of an overview of existing evidence pertinent to a clearly formulated research question, which uses pre-specified and standardized methods to identify and critically appraise relevant research, and to collect, report, and analyse data from the studies that are included in the review. Typically it focuses on a very specific empirical question, often posed in a cause-and-effect form, such as "To what extent does A contribute to B?"

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6. Theoretical Review

The purpose of this form is to concretely examine the corpus of theory that has accumulated in regard to an issue, concept, theory, phenomena. The theoretical literature review help establish what theories already exist, the relationships between them, to what degree the existing theories have been investigated, and to develop new hypotheses to be tested. Often this form is used to help establish a lack of appropriate theories or reveal that current theories are inadequate for explaining new or emerging research problems. The unit of analysis can focus on a theoretical concept or a whole theory or framework.

Structure and Writing Style

The structure of a literature review should include the following:

1. An overview of the subject, issue or theory under consideration, along with the objectives of the literature review,
2. Division of works under review into themes or categories (e.g. works that support of a particular position, those against, and those offering alternative approaches entirely),
3. An explanation of how each work is similar to and how it varies from the others,
4. Conclusions as to which pieces are best considered in their argument, are most convincing of their opinions, and make the greatest contribution to the understanding and development of their area of research

The Critical Evaluation of Each Work Should Consider:

1. **Provenance** -- what are the author's credentials? Are the author's arguments supported by evidence (e.g. primary historical material, case studies, narratives, statistics, and recent scientific findings)?
2. **Objectivity** -- is the author's perspective even-handed or prejudicial? Is contrary data considered or is certain pertinent information ignored to prove the author's point?
3. **Persuasiveness** -- which of the author's theses are most/least convincing?
4. **Value** -- are the author's arguments and conclusions convincing? Does the work ultimately contribute in any significant way to an understanding of the subject?

Development/ Sources of the Literature Review

There are various ways of developing a coherent literature review. However, let's examine four stages as identified by USC Libraries (2014),

1. Problem formulation -- which topic or field is being examined and what are its component issues?
2. Literature search -- finding materials relevant to the subject being explored.
3. Data evaluation -- determining which literature makes a significant contribution to the understanding of the topic.
4. Analysis and interpretation -- discussing the findings and conclusions of pertinent literature.

It's easy to think that the best way to search for texts is to use the Internet - to 'Google it'. There are useful online tools that you may use, like Google Scholar. However, for most literature reviews you will need to focus on academically authoritative texts like academic books, journals, research reports, government publications. Searching Google will give you thousands of hits, few of them authoritative, and you will waste time sorting through them. A better idea is to use databases. These are available through the Library in paper and electronic (usually online) forms.

Ways to Organize Your Literature Review

This is subject to disciplinary approach. However, there are general rules or guidelines which is applicable. Some of these approaches are,

1. Chronological of Events

If your review follows the chronological method, you could write about the materials according to when they were published. This approach should only be followed if a clear path of research building on previous research can be identified and that these trends follow a clear chronological order of development. For example, a literature review that focuses on continuing research about the emergence of German economic power after the fall of the Soviet Union.

2. By Publication

Order your sources by publication chronology, then, only if the order demonstrates a more important trend. For instance, you could order a review of literature on environmental studies of brown fields if the progression revealed, for example, a change in the soil collection practices of the researchers who wrote and/or conducted the studies.

3. Thematic ("conceptual categories")

Thematic reviews of literature are organized around a topic or issue, rather than the progression of time. However, progression of time may still be an important factor in a thematic review. For example, a review of the Internet's impact on American presidential politics could focus on the development of online political satire. While the study focuses on one topic, the Internet's impact on American presidential politics, it will still be organized chronologically reflecting technological developments in media. The only difference here between a "chronological" and a "thematic" approach is what is emphasized the most: the role of the Internet in presidential politics. Note however that more authentic thematic reviews tend to break away from chronological order. A review organized in this manner would shift between time periods within each section according to the point made.

4. Methodological

A methodological approach focuses on the methods utilized by the researcher. A methodological scope will influence either the types of documents in the review or the way in which these documents are discussed.

5. Other Sections of Your Literature Review

Once you've decided on the organizational method for your literature review, the sections you need to include in the paper should be easy to figure out because they arise from your organizational strategy. In other words, a chronological review would have subsections for each vital time period; a thematic review would have subtopics based upon factors that relate to the theme or issue. However, sometimes you may need to add additional sections that are necessary for your study, but do not fit in the organizational strategy of the body. What other sections you include in the body is up to you but include only what is necessary for the reader to locate your study within the larger scholarship framework.

Here are examples of other sections you may need to include depending on the type of review you write:

1. **Current Situation**: information necessary to understand the topic or focus of the literature review.
2. **History**: the chronological progression of the field, the literature, or an idea that is necessary to understand the literature review, if the body of the literature review is not already a chronology.
3. **Selection Methods**: the criteria you used to select (and perhaps exclude) sources in your literature review. For instance, you might explain that your review includes only peer-reviewed articles and journals.
4. **Standards**: the way in which you present your information.
5. **Questions for Further Research**: What questions about the field has the review sparked? How will you further your research as a result of the review?

Writing Your Literature Review

Once you've settled on how to organize your literature review, you're ready to write each section. When writing your review, keep in mind these issues.

1. Use Evidence

A literature review in this sense is just like any other academic research paper. Your interpretation of the available sources must be backed up with evidence to show that what you are saying is valid.

2. Be Selective

Select only the most important points in each source to highlight in the review. The type of information you choose to mention should relate directly to the research problem, whether it is thematic, methodological, or chronological.

3. Use Quotes Sparingly

Some short quotes are okay if you want to emphasize a point, or if what the author said just cannot be rewritten in your own words. Sometimes you may need to quote certain terms that were coined by the author, not common knowledge, or taken directly from the study. Do not use extensive quotes as a substitute your own summary and interpretation of the literature.

4. Summarize and Synthesize

Remember to summarize and synthesize your sources within each paragraph as well as throughout the review. Recapitulate important features of a research study, but then synthesize it by rephrasing the study's significance and relating it to their own work.

5. Keep Your Own Voice

While the literature review presents others' ideas, your voice (the writer's) should remain front and center. For example, weave references to other sources into what you are writing but maintain your own voice by starting and ending the paragraph with your own ideas and wording.

6. Use Caution When Paraphrasing

When paraphrasing a source that is not your own, be sure to represent the author's information or opinions accurately and in your own words. Even when paraphrasing an author's work, you still must provide a citation to that work.

Common Mistakes to Avoid

These are the most common mistakes made in reviewing literature. A literature review should never be just a list, as in the example below:

"Until recently many researchers have shown interest in the field of coastal erosion and the resulting beach profiles. They have carried out numerous laboratory experiments and field observations to illuminate the darkness of this field. Their findings and suggestions are reviewed here.

JACHOWSKI (1964) developed a model investigation conducted on the interlocking precast concrete block seawall. After a result of a survey of damages caused by the severe storm at the coast of USA, a new and especially shaped concrete block was developed for use in shore protection. This block was designed to be used in a revetment type seawall that would be both durable and economical as well as reduce wave run-up and overtopping, and scour at its base or toe. It was proved that effective shore protection could be designed utilizing these units.

HOM-MA and HORIKAWA (1964) studied waves forces acting on the seawall which was located inside the surf zone. On the basis of the experimental results conducted to measure waves forces against a vertical wall, the authors proposed an empirical formula

of wave pressure distribution on a seawall. The computed results obtained by using the above formula were compared well with the field data of wave pressure on a vertical wall.

SELEZOV and ZHELEZNYAK (1965) conducted experiments on scour of sea bottom in front of harbor seawalls, basing on the theoretical investigation of solitary wave interaction with a vertical wall using Boussinesque type equation. It showed that the numerical results were in reasonable agreement with laboratory experimental data."

The above examples are just quotes, but do not show any relationship to the variables under study or offer any explanation. All this extract does is to write a potted summary of the views of three sets of authors; there is no attempt to look at the relationships between the views, or draw out themes. Other things to be noted are identified below,

1. Sources in your literature review do not clearly relate to the research problem;
2. You do not take sufficient time to define and identify the most relevant sources to use in the literature review related to the research problem;
3. Relies exclusively on secondary analytical sources rather than including relevant primary research studies or data;
4. Uncritically accepts another researcher's findings and interpretations as valid, rather than examining critically all aspects of the research design and analysis;
5. Does not describe the search procedures that were used in the literature review;
6. Reports isolated statistical results rather than synthesizing them in chi-squared or meta-analytic methods; and,
7. Only includes research that validates assumptions and does not consider contrary findings and alternative interpretations found in the literature.

A literature review must therefore reflect the analysis of existing research which is relevant to your topic, showing how it relates to your investigation. It must explain and justify how your investigation may help answer some of the questions or gaps in this area of research.

1.9 Design and Development of Theoretical and Conceptual Framework in Research

The terms "conceptual framework" and "theoretical framework" are often used interchangeably. Before we distinguish them, it is important to note that "theoretical framework" and "conceptual framework" may be represented as models. A model is a symbolic representation that helps the researcher to express abstract concepts and relationships easily, using minimal words. A model can be represented schematically or mathematically.

a. Schematic model - conveys concepts and propositions through the use of boxes, arrows or other symbols.

b. Mathematical or statistical model - conveys concepts and propositions through the use of letters, number and mathematical symbols.

Conceptual framework can be regarded as the adoption of a set of broad ideas and principles, taken from relevant fields of enquiry and used as a basis for the rational study/explanation of a phenomenon. The conceptual framework is like a 'road map' for planning a research study as well as 'a compass' for monitoring the direction of the work and conceptualizing the overall goals of the research. Theoretical framework, on the other hand, can be described as a collection of interrelated concepts, like a theory but not necessarily so well worked –out.

A theory is defined as an explanation of a phenomenon or an abstract generalization that systematically explains the relationship among given phenomena, for purposes of explaining, predicting and controlling such phenomena. Theories are formulated to explain, predict, and understand phenomena and, in many cases, to challenge and extend existing knowledge, within the limits of the critical bounding assumptions. The theoretical framework is the structure that can hold or support a theory of a research study. The theoretical framework introduces and describes the theory which explains why the research problem under study exists.

Note: *It is useful to recall that our work as scientists will be at its best when it simultaneously tackles real-world problems and enriches our understanding of basic biological, psychological, or social processes. A good theory can help us do both. All empirical research is based on assumptions. Even purely "descriptive" or "exploratory" studies necessarily involve choices about the phenomena and variables to observe and the level of detail at which to observe them. Researchers planning an empirical study confront the challenges of making these assumptions explicit, examining them critically, and designing the investigation to yield data that permit those assumptions to be evaluated and modified appropriately. This is the process of theory construction. Unfortunately, although all research is based on theory, many grant proposals lack a well-developed theoretical rationale. The theoretical framework often remains implicit in the proposal without being formally articulated. Consequently, even though the application may be based on a good idea, it is conceptually weak and receives a poor priority/impact score (Gregory, 2011).*

The theoretical framework consists of theories that seem to be interrelated, which offers explanations to the relationship between two or more variables or phenomena. If a relationship is found between two or more variables, a theory should be formulated to explain why the relationship exists. Theories are purposely created and formulated, never discovered; they can be tested but never proven.

A theoretical framework is a theoretical perspective of something. It can simply be a theory, but it can also be more general or a basic approach to understanding something. Typically, a theoretical framework defines the kinds of variables that you will want to look at. It explains the theory of why the research is necessary. The framework helps the reader to make sense of the question that the research is founded on.

A theoretical framework refers to a collection of interrelated concepts. It is like a theory but it is so well worked out. It guides one's research, determines what things one will measure and the statistical relationships one will look for. They are important in exploratory studies.

It is the use of relevant and existing theories as a platform for investigating and/ or explaining a phenomenon under study. The theoretical framework of a study is really the researcher's pre – conceived conceptual perspective. It is 'the lens' through which the researcher views the world. The researcher's disciplinary orientation leads to the topics that will be studied and the questions that will be asked. A theoretical framework guides the whole research, determining what things to be measured, and what statistical relationships to look for.

Importance of theoretical framework in academic research

Theoretical framework places several importance in research, two of such are that,

1. A theoretical framework consists of concepts, together with their definitions, and existing theory/theories that are used for your particular study. The theoretical framework must demonstrate an understanding of theories and concepts that are relevant to the topic of your research paper and that will relate it to the broader fields of knowledge in the class you are taking.
2. The theoretical framework is not something that is found readily available in the literature. You must review course readings and pertinent research literature for theories and analytic models that are relevant to the research problem you are investigating. The selection of a theory should depend on its appropriateness, ease of application, and explanatory power.

The theoretical framework strengthens the study in the following ways.

1. An explicit statement of theoretical assumptions permits the reader to evaluate them critically.
2. The theoretical framework connects the researcher to existing knowledge. Guided by a relevant theory, you are given a basis for your hypotheses and choice of research methods.
3. Articulating the theoretical assumptions of a research study forces you to address questions of why and how. It permits you to move from simply describing a phenomenon observed to generalizing about various aspects of that phenomenon.

4. Having a theory helps you to identify the limits to those generalizations. A theoretical framework specifies which key variables influence a phenomenon of interest. It alerts you to examine how those key variables might differ and under what circumstances.

By virtue of its application nature, good theory in the social sciences is of value precisely because it fulfills one primary purpose: to explain the meaning, nature, and challenges of a phenomenon, often experienced but unexplained in the world in which we live, so that we may use that knowledge and understanding to act in more informed and effective ways.

Structure and Writing Style

Here again, the blueprint set by USC (2007) provides us with a useful guide. The theoretical framework may be rooted in a specific theory, in which case, you are expected to test the validity of an existing theory in relation to specific events, issues, or phenomena. Many social science research papers fit into this rubric. For example, Peripheral Realism theory, which categorizes perceived differences between nation-states as those that give orders, those that obey, and those that rebel, could be used as a means for understanding conflicted relationships among countries in Africa.

A test of this theory could be the following: Does Peripheral Realism theory help explain intra-state actions, such as, the growing split between southern and northern Sudan that may likely lead to the creation of two nations? The questions below will help your thought pattern in structuring a theoretical framework.

1. **What is the research problem/question?** e.g., "How should the individual and the state relate during periods of conflict?"
2. **Why is your approach a feasible solution?** I could choose to test Instrumentalist or Circumstantialists models developed among Ethnic Conflict Theorists that rely upon socio-economic-political factors to explain individual-state relations and to apply this theoretical model to periods of war between nations.

The answers to these questions come from a thorough review of the literature and your course readings [summarized and analyzed in the next section of your paper] and the

gaps inthe research that emerge from the review process. With this in mind,a complete theoretical framework will likely not emerge until after you have completed a thorough review of the literature.

In writing this part of your research paper, keep in mind the following:

1. Clearly describe the framework, concepts, models, or specific theories that underpin your study. This includes noting who the key theorists are in the field who have conducted research on the problem you are investigating and, when necessary, the historical context that supports the formulation of that theory. This latter element is particularly important if the theory is relatively unknown or it is borrowed from another discipline.
2. Position your theoretical framework within a broader context of related frameworks, concepts, models, or theories. There will likely be several concepts, theories, or models that can be used to help develop a framework for understanding the research problem. Therefore, note why the framework you've chosen is the appropriate one.
3. The present tense is used when writing about theory.
4. You should make your theoretical assumptions as explicit as possible. Later, your discussion of methodology should be linked back to this theoretical framework.
5. Don't just take what the theory says as a given! Reality is never accurately represented in such a simplistic way; if you imply that it can be you fundamentally distort a reader's ability to understand the findings that emerge. Given this, always note the limitations of the theoretical framework you've chosen [i.e., what parts of the research problem require further investigation because the theory does not explain a certain phenomenon].

Note: When first mentioned the theory must be stated in simple and clear terms. Identify the proponents of the theory, their major arguments, how it explains the variables in your study. This provides a simple insight on the relevance of such theoretical position to your study.

1.10 Research Design

The **DESIGN & METHOD** section of the research activity is where the researcher explains to the reader how he went about carrying out your research. This has to describe the subjects, the instruments used, the conditions under which the tests were given, how the tests were scored, how the results were analyzed and interpreted. This section needs to be very explicit. A good rule of thumb is to provide enough detail so that others could replicate all the important points of your research. Failure to provide adequate detail may raise doubts in the readers' minds about the procedures and findings.

The Research Design

The research design refers to the overall strategy that one chooses to integrate the different components of the study in a coherent and logical way, thereby, ensuring that the research problem under investigation is well addressed. It constitutes the blueprint for the collection, measurement, and analysis of data. Note that your research problem determines the type of design you can use, not the other way around.

According to USC (2007), the function of a research design is to ensure that the evidence obtained enables you to effectively address the research problem as unambiguously as possible. In social sciences research, obtaining evidence relevant to the research problem generally entails specifying the type of evidence needed to test a theory, to evaluate a program, or to accurately describe a phenomenon. However, researchers can often begin their investigations far too early, before they have thought critically about what information is required to answer the study's research questions. Without attending to these design issues beforehand, the conclusions drawn risk being weak and unconvincing and, consequently, will fail to adequate address the overall research problem.

Given this, the length and complexity of research designs can vary considerably, but any sound design will do the following things:

1. Identify the research problem clearly and justify its selection,
2. Review previously published literature associated with the problem area,

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3. Clearly and explicitly specify hypotheses [i.e., research questions] central to the problem selected,
4. Effectively describe the data which will be necessary for an adequate test of the hypotheses and explain how such data will be obtained, and
5. Describe the methods of analysis which will be applied to the data in determining whether or not the hypotheses are true or false.

Types of Research Design

There are various types of research design, especially in the context of multi- disciplinary setting and research approach. We will just take a brief look at some commonly used design,

1. Descriptive Design

Descriptive research designs help provide answers to the questions of who, what, when, where, and how associated with a particular research problem; a descriptive study cannot conclusively ascertain answers to why. Descriptive research is used to obtain information concerning the current status of the phenomena and to describe "what exists" with respect to variables or conditions in a situation.

2. Experimental Design

A blueprint of the procedure that enables the researcher to maintain control over all factors that may affect the result of an experiment. In doing this, the researcher attempts to determine or predict what may occur. Experimental Research is often used where there is time priority in a causal relationship (cause precedes effect), there is consistency in a causal relationship (a cause will always lead to the same effect), and the magnitude of the correlation is great. The classic experimental design specifies an experimental group and a control group. The independent variable is administered to the experimental group and not to the control group, and both groups are measured on the same dependent variable. Subsequent experimental designs have used more groups and more measurements over longer periods. True experiments must have control, randomization, and manipulation.

3. Exploratory Design

An exploratory design is conducted about a research problem when there are few or no earlier studies to refer to. The focus is on gaining insights and familiarity for later investigation or undertaken when problems are in a preliminary stage of investigation.

The goals of exploratory research are intended to produce the following possible insights:

a. Familiarity with basic details, settings and concerns.

b. Well-grounded picture of the situation being developed.

c. Generation of new ideas and assumption, development of tentative theories or hypotheses.

d. Determination about whether a study is feasible in the future.

e. Issues get refined for more systematic investigation and formulation of new research questions.

f. Direction for future research and techniques get developed.

4. Historical Design

The purpose of a historical research design is to collect, verify, and synthesize evidence from the past to establish facts that defend or refute your hypothesis. It uses secondary sources and a variety of primary documentary evidence, such as, logs, diaries, official records, reports, archives, and non-textual information [maps, pictures, audio and visual recordings]. The limitation is that the sources must be both authentic and valid.

5. Case Study Design

A case study is an in-depth study of a particular research problem rather than a sweeping statistical survey. It is often used to narrow down a very broad field of research into one or a few easily researchable examples. The case study research design is also useful for testing whether a specific theory and model actually applies to phenomena in the real world. It is a useful design when not much is known about a phenomenon.

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6. Causal Design

Causality studies may be thought of as understanding a phenomenon in terms of conditional statements in the form, "If X, then Y." This type of research is used to measure what impact a specific change will have on existing norms and assumptions. Most social scientists seek causal explanations that reflect tests of hypotheses. Causal effect (nomothetic perspective) occurs when variation in one phenomenon, an independent variable, leads to or results, on average, in variation in another phenomenon, the dependent variable.

Conditions necessary for determining causality:

1. Empirical association--a valid conclusion is based on finding an association between the independent variable and the dependent variable.
2. Appropriate time order--to conclude that causation was involved, one must see that cases were exposed to variation in the independent variable before variation in the dependent variable.
3. Nonspuriousness--a relationship between two variables that is not due to variation in a third variable.

7. Cohort Design

Often used in the medical sciences, but also found in the applied social sciences, a cohort study generally refers to a study conducted over a period of time involving members of a population which the subject or representative member comes from, and who are united by some commonality or similarity. Using a quantitative framework, a cohort study makes note of statistical occurrence within a specialized subgroup, united by same or similar characteristics that are relevant to the research problem being investigated, rather than studying statistical occurrence within the general population. Using a qualitative framework, cohort studies generally gather data using methods of observation. Cohorts can be either "open" or "closed."

8. Cross-Sectional Design

Cross-sectional research designs have three distinctive features: no time dimension, a reliance on existing differences rather than change following intervention; and, groups are selected based on existing differences rather than random allocation. The cross-sectional design can only measure differences between or from among a variety of people, subjects, or phenomena rather than change. As such, researchers using this design can only employ a relative passive approach to making causal inferences based on findings.

9. Longitudinal Design

A longitudinal study follows the same sample over time and makes repeated observations. With longitudinal surveys, for example, the same group of people is interviewed at regular intervals, enabling researchers to track changes over time and to relate them to variables that might explain why the changes occur. Longitudinal research designs describe patterns of change and help establish the direction and magnitude of causal relationships. Measurements are taken on each variable over two or more distinct time periods. This allows the researcher to measure change in variables over time. It is a type of observational study and is sometimes referred to as a panel study.

10. Observational Design

This type of research design draws a conclusion by comparing subjects against a control group, in cases where the researcher has no control over the experiment. There are two general types of observational designs. In direct observations, people know that you are watching them. Unobtrusive measures involve any method for studying behavior where individuals do not know they are being observed. An observational study allows a useful insight into a phenomenon and avoids the ethical and practical difficulties of setting up a large and

1.11 Research Methodology

The research methodology is concern with two major things;

a. How the data were collected or generated and
b. How was it analyzed?

However, this is to be done in a direct and precise manner, and of course written in the past tense. In social sciences, there are two main groups of research methods:

1. The **empirical-analytical group** approaches the study of social sciences in a similar manner that researchers study the natural sciences. This type of research focuses on objective knowledge, research questions that can be answered "yes" or "no" and operational definitions of variables to be measured. The empirical-analytical group employs deductive reasoning that uses existing theory as a foundation for hypotheses that need to be tested. This approach is focused on explanation.
2. The **interpretative group is focused on understanding phenomenon in a comprehensive, holistic way**. This research method allows you to recognize your connection to the subject under study. Because the interpretative group focuses more on subjective knowledge, it requires careful interpretation of variables.

Importance of a Good Methodology

The following shows the relevance of research methodology in a research activity,

1. Readers need to know how the data was obtained because the method you choose affects the results and, by extension, how you likely interpreted those results.
2. Methodology is crucial for any branch of scholarship because an unreliable method produces unreliable results and it misappropriates interpretations of findings.
3. In most cases, there are a variety of different methods you can choose to investigate a research problem. Your methodology section of your paper should make clear the reasons why you chose a particular method or procedure.
4. The reader wants to know that the data was collected or generated in a way that is consistent with accepted practice in the field of study. For example, if you are using a questionnaire, readers need to know that it offered your respondents a reasonable range of answers to choose from.
5. The research method must be appropriate to the objectives of the study. For example, be sure you have a large enough sample size to be able to generalize and make recommendations based upon the findings.

6. The methodology should discuss the problems that were anticipated and the steps you took to prevent them from occurring. For any problems that did arise, you must describe the ways in which their impact was minimized or why these problems do not affect the findings in any way that impacts your interpretation of the data.
7. Often in social science research, it is useful for other researchers to adapt or replicate your methodology. Therefore, it is important to always provide sufficient information to allow others to use or replicate the study. This information is particularly important when a new method had been developed or an innovative use of an existing method has been utilized.

According to USC Libraries (2014), an effectively written methodology section should:

1. **Introduce the overall methodological approach for investigating your research problem**. Is your study qualitative or quantitative or a combination of both (mixed method)? Are you going to take a special approach, such as action research, or a more neutral stance?
2. **Indicate how the approach fits the overall research design**. Your methods should have a clear connection with your research problem. In other words, make sure that your methods will actually address the problem. One of the most common deficiencies found in research papers is that the proposed methodology is unsuited to achieving the stated objective of your paper.
3. **Describe the specific methods of data collection you are going to use**, such as, surveys, interviews, questionnaires, observation, and archival research. If you are analzying existing data, such as a data set or archival documents, describe how it was originally created or gathered and by whom.
4. **Explain how you intend to analyze your results**. Will you use statistical analysis? Will you use specific theoretical perspectives to help you analyze a text or explain observed behaviors?
5. **Provide background and rationale for methodologies that are unfamiliar for your readers**. Very often in the social sciences, research problems and the methods for investigating them require more explanation/rationale than widely

accepted rules governing the natural and physical sciences. Be clear and concise in your explanation.

6. **Provide a rationale for subject selection and sampling procedure**. For instance, if you propose to conduct interviews, how do you intend to select the sample population? If you are analyzing texts, which texts have you chosen, and why? If you are using statistics, why is this set of statistics being used? If other data sources exist, explain why the data you chose is most appropriate.

7. **Address potential limitations**. Are there any practical limitations that could affect your data collection? How will you attempt to control for potential confounding variables and errors? If your methodology may lead to problems you can anticipate, state this openly and show why pursuing this methodology outweighs the risk of these problems cropping up.

Systematic collection of data, statistical data analysis, results and discussion

Data are the symbols, numbers and /or alphabetical characters used to describe one or more attributes such as age, sex, volume, growth rates, temperature, etc. of an entity. Data are obtained by observing, counting, measuring, weighing etc which are then recorded. Data is the building block of information. Data can be of three types:

1. Cardinal or numerical data or discrete variables (quantitative) are those which can take certain values. Examples include the number of nodes in cowpea plant; this can be only integers such as 0,1,2,3 etc.
2. Nominal or categorical data, which are simply facts that can be sorted into classes and enumerated such as colour and breed.
3. Ordinal or continuous variables are those that have ordered relationship to one another and can take any value in a certain range.

There are three basic techniques available to collect research data.

1. Interview (both face to face and via questionnaires),
2. Observation and,
3. Examination of existing records.

Analysis of data generally require that the investigator must systematically examine data in order to understand patterns and, in some cases, to identify cause and effect relationships between dependent and independent variables. This process must be well documented so that other researchers can follow it, understand it, understand the decisions already taken and independently verify the results.

Statistics is a vital tool in any research. Its use starts from the point of gathering data, through data analysis to the point of making the final decisions or inferences. The facilitator is expected to discuss these different stages in the use of statistics in research methods and the ultimate objective is to optimize the gains of statistical analysis. These gains, the facilitator are expected to teach will come about through minimization of errors, correct method of data analysis and reasonable interpretations of results.

1.12 Result

The results section of the research paper is where the researcher reports the findings of the study based upon the information gathered as a result of the methodology [or methodologies] applied. The results section should simply state the findings, without bias or interpretation, and arranged in a logical sequence. The results section should always be written in the past tense. A section describing results [a.k.a., "findings"] is particularly necessary if your paper includes data generated from your own research.

Content of the Result Section

In general, the content of your results section should include the following elements:

1. An introductory context for understanding the results by restating the research problem that underpins the purpose of your study.
2. A summary of your key findings arranged in a logical sequence that generally follows your methodology section.
3. Inclusion of non-textual elements, such as, figures, charts, photos, maps, tables, etc. to further illustrate the findings, if appropriate.
4. In the text, a systematic description of your results, highlighting for the reader observations that are most relevant to the topic under investigation [remember that not all results that emerge from the methodology that you used to gather the data may be relevant].

5. Use of the past tense when referring to your results.
6. The page length of your results section is guided by the amount and types of data to be reported. However, focus only on findings that are important and related to addressing the research problem.

Using Non-textual Elements

1. Either place figures, tables, charts, etc. within the text of the result, or include them in the back of the report--*do one or the other but never do both*.
2. In the text, refer to each non-textual element in numbered order e.g., Table 1, Table 2; Chart 1, Chart 2; Map 1, Map 2.
3. If you place non-textual elements at the end of the report, make sure they are clearly distinguished from any attached appendix materials, such as raw data.
4. Regardless of placement, each non-textual element must be numbered consecutively and complete with caption [caption goes under the figure, table, chart, etc.]
5. Each non-textual element must be titled, numbered consecutively, and complete with a heading [title with description goes above the figure, table, chart, etc.].
6. In proofreading your results section, be sure that each non-textual element is sufficiently complete so that it could stand on its own, separate from the text.

Note: Each table should be followed by a short explanation of the findings before proceeding to the next table. This helps the reader to better understand each finding. It also helps in providing a brief conclusion in the results section that ties each of the findings together and links to the discussion. It has to be factual and concise as possible.

1.13 Discussion of Findings

The purpose of the discussion is to interpret and describe the significance of findings in light of what was already known about the research problem being investigated, and to explain any new understanding or fresh insights about the problem after taking the findings into consideration. The discussion will always connect to the introduction by way of the research questions or hypotheses earlier posed and the literature reviewed,

but it does not simply repeat or rearrange the introduction. The discussion discusses and explains how the study has moved the reader's understanding of the research problem forward, the methodology employed and the findings obtained at the end.

Importance of a Good Discussion

The USC Libraries (2014) research blueprint hands us certain importance of a good discussion. There are,

1. This section is often considered the most important part of a research paper because it most effectively demonstrates your ability as a researcher to think critically about an issue, to develop creative solutions to problems based on the findings, and to formulate a deeper, more profound understanding of the research problem you are studying.
2. The discussion section is where you explore the underlying meaning of your research, it's possible implications in other areas of study, and the possible improvements that can be made in order to further develop the concerns of your research.
3. This is the section where you need to present the importance of your study and how it may be able to contribute to and/or fill existing gaps in the field. If appropriate, the discussion section is also where you state how the findings from your study revealed new gaps in the literature that had not been previously exposed or adequately described.
4. This part of the paper is not strictly governed by objective reporting of information but, rather, it is where you can engage in creative thinking about issues through evidence-based interpretation of findings. This is where you infuse your results with meaning.

***The content of the discussion section of your paper most often includes**:*

1. **Explanation of results**: comment on whether or not the results were expected and present explanations for the results; go into greater depth when explaining findings that were unexpected or especially profound. If appropriate, note any unusual or unanticipated patterns or trends that emerged from your results and explain their meaning.

2. **References to previous research**: compare your results with the findings from other studies, or use the studies to support a claim. This can include re-visiting key sources already cited in your literature review section, or, save them to cite later in the discussion section if they are more important to compare with your results than being part of the general research you cited to provide context and background information.
3. **Deduction**: a claim for how the results can be applied more generally. For example, describing lessons learned, proposing recommendations that can help improve a situation, or recommending best practices.
4. **Hypothesis**: a more general claim or possible conclusion arising from the results [which may be proved or disproved in subsequent research].

Organization and structure of the discussion

Keep the following sequential points in mind as you organize and write the discussion section of your paper:

1. Think of your discussion as an inverted pyramid. Organize the discussion from the general to the specific, linking your findings to the literature, then to theory, then to practice [if appropriate].
2. Use the same key terms, mode of narration, and verb tense [present] that you used when describing the research problem in the introduction.
3. Begin by briefly re-stating the research problem you were investigating and answer all of the research questions underpinning the problem that you posed in the introduction.
4. Describe the patterns, principles, and relationships shown by each major findings and place them in proper perspective. The sequencing of providing this information is important; first state the answer, then the relevant results, then cite the work of others. If appropriate, refer the reader to a figure or table to help enhance the interpretation of the data. The order of interpreting each major finding should be in the same order as they were described in your results section.

5. A good discussion section includes analysis of any unexpected findings. This paragraph should begin with a description of the unexpected finding, followed by a brief interpretation as to why you believe it appeared and, if necessary, its possible significance in relation to the overall study. If more than one unexpected finding emerged during the study, describe each them in the order they appeared as you gathered the data.

6. Before concluding the discussion, identify potential limitations and weaknesses. Comment on their relative importance in relation to your overall interpretation of the results and, if necessary, note how they may affect the validity of the findings. Avoid using an apologetic tone; however, be honest and self-critical.

7. The discussion section should end with a concise summary of the principal implications of the findings regardless of statistical significance. Give a brief explanation about why you believe the findings and conclusions of your study are important and how they support broader knowledge or understanding of the research problem. This can be followed by any recommendations for further research. However, do not offer recommendations which could have been easily addressed within the study. This demonstrates to the reader you have inadequately examined and interpreted the data.

Overall Objectives

The objectives of your discussion section should include the following:

1. **Reiterate the Research Problem/State the Major Findings**
   Briefly reiterate for your readers the research problem or problems you are investigating and the methods you used to investigate them, then move quickly to describe the major findings of the study. You should write a direct, declarative, and succinct proclamation of the study results.

2. **Explain the Meaning of the Findings and Why They are Important**
   No one has thought as long and hard about your study as you have. Systematically explain the meaning of the findings and why you believe they are important. After reading the discussion section, you want the reader to think about the results ["why hadn't I thought of that?"]. You don't want to force the reader to go through the paper multiple times to figure out what it all means.

Begin this part of the section by repeating what you consider to be your most important finding first.

3. Relate the Findings to Similar Studies

No study is so novel or possesses such a restricted focus that it has absolutely no relation to other previously published research. The discussion section should relate your study findings to those of other studies, particularly if questions raised by previous studies served as the motivation for your study, the findings of other studies support your findings [which strengthens the importance of your study results], and/or they point out how your study differs from other similar studies.

4. Consider Alternative Explanations of the Findings

It is important to remember that the purpose of research is to *discover* and not to *prove*. When writing the discussion section, you should carefully consider all possible explanations for the study results, rather than just those that fit your prior assumptions or biases.

5. Acknowledge the Study's Limitations

It is far better for you to identify and acknowledge your study's limitations than to have them pointed out by your professor! Describe the generalizability of your results to other situations, if applicable to the method chosen, then describe in detail problems you encountered in the method(s) you used to gather information. Note any unanswered questions or issues your study did not address, and....

6. Make Suggestions for Further Research

Although your study may offer important insights about the research problem, other questions related to the problem likely remain unanswered. Moreover, some unanswered questions may have become more focused because of your study. You should make suggestions for further research in the discussion section.

The discussion section should remain focused on the findings of your study. As rules guiding a sound discussion of results, one must take note of the following,

a. Do not be verbose or repetitive.
b. Be concise and make your points clearly.
c. Avoid using jargon.
d. Follow a logical stream of thought.
e. Use the present verb tense, especially for established facts; however, refer to specific works and references in the past tense.
f. If needed, use subheadings to help organize your presentation or to group your interpretations into themes.

NOTE: Besides the literature review section, the preponderance of references to sources in your research paper is usually found in the discussion section. A few historical references may be helpful for perspective but most of the references should be relatively recent and included to aid in the interpretation of your results and/or linked to similar studies. If a study that you cited disagrees with your findings, don't ignore it--clearly explain why the study's findings differ from yours (USC Libraries, 2014).

1.14 Conclusion

The conclusion is intended to help the reader understand why your research should matter to them after they have finished reading the paper. A conclusion is not merely a summary of your points or a re-statement of your research problem but a synthesis of key points. For most essays, one well-developed paragraph is sufficient for a conclusion, although in some cases, a two-or-three paragraph conclusion may be required.

The conclusion section should be concise and to the point. Conclusions that are too long often have unnecessary detail. The conclusion section is not the place for details about your methodology or results. Although you should give a summary of what was learned from your research, this summary should be relatively brief, since the emphasis in the conclusion is on the implications, evaluations, insights, etc. that you make.

When concluding, you are moving from general to specific. In the introduction, your task was to move from general [the field of study] to specific [your research problem]. However, in the conclusion, your task is to move from specific [your research problem] back to general [your field, i.e., how your research contributes new understanding or fills

an important gap in the literature]. In other words, the conclusion is where you place your research within a larger context.

It is important to also note that, while writing your conclusion, avoid phrases like "in conclusion...," "in summary...," or "in closing...." These phrases can be useful, even welcome, in oral presentations. But readers can see by the tell-tale section heading and number of pages remaining to read, when an essay is about to end. You'll irritate your readers if you belabor the obvious. Go straight to the point and state your fact.

A well-written conclusion provides you with several important opportunities to demonstrate your overall understanding of the research problem to the reader. These include:

1. **Presenting the last word on the issues you raised in your paper**. Just as the introduction gives a first impression to your reader, the conclusion offers a chance to leave a lasting impression. Do this, for example, by highlighting key points in your analysis or findings.
2. **Summarizing your thoughts and conveying the larger implications of your study**. The conclusion is an opportunity to succinctly answer the "so what?" question by placing the study within the context of past research about the topic you've investigated.
3. **Demonstrating the importance of your ideas**. Don't be shy. The conclusion offers you a chance to elaborate on the significance of your findings.
4. **Introducing possible new or expanded ways of thinking about the research problem**. This does not refer to introducing new information [which should be avoided], but to offer new insight and creative approaches for framing/contextualizing the research problem based on the results of your study.

Strategies to help you move beyond merely summarizing the key points of your research paper may include any of the following.

1. If your essay deals with a contemporary problem, warn readers of the possible consequences of not attending to the problem.
2. Recommend a specific course or courses of action.

3. Cite a relevant quotation or expert opinion to lend authority to the conclusion you have reached [a good place to look is research from your literature review].
4. Restate a key statistic, fact, or visual image to drive home the ultimate point of your paper.
5. If your discipline encourages personal reflection, illustrate your concluding point with a relevant narrative drawn from your own life experiences.
6. Return to an anecdote, an example, or a quotation that you introduced in your introduction, but add further insight that is derived from the findings of your study; use your interpretation of results to reframe it in new ways.
7. Provide a "take-home" message in the form of a strong, clear statement of fact that you want the reader to remember about your study.

It is important to also add that the conclusion gives you the opportunity to discuss the meaning of your results beyond what they mean statistically; that is, you interpret the findings and indicate what can be concluded from them. In your discussion, indicate whether the results confirm, totally or in part, your original expectations or predictions. For each hypothesis, indicate whether it was supported and why. Discuss any limitations inherent in your research procedures. What implications do these limitations have for the conclusions drawn from the results? You should also discuss the relationship of your results to the original problem description:

1. Will any of the alternatives make a difference, help solve the problem, or improve the situation?
2. What are the long-term as well as the short-term implications of your findings?
3. How do your findings relate to those of other researchers cited in the Literature Review?

In some cases, the findings of several hypotheses may be interrelated. In that situation, you might choose to discuss those findings together and explain the interrelationships.

1.15 Recommendations

There are two types of recommendations; recommendation for policy implication and recommendation for further studies or research. The first one is required in scholarly or journal articles while the latter is most reflected in graduate and/or post graduate projects.

The recommendation for policy implication involves the following,

1. specifically stating what should be done, the steps required implementing the policy, and the resources needed;
2. discussion of the benefits to the organization and what problems would be corrected or avoided;
3. discussion of the feasibility of the proposed policy; and
4. general statement about the nature and timing of an evaluation plan that would be used to determine the effectiveness of the proposed policy.

Recommendations for further research

This section highlights the actions that future researchers should take as a result of your Project. Ideally you should be able to make a formal recommendation regarding the alternative that is best supported by the study. Present and discuss the kinds of additional research suggested by your Project. If the preferred alternative is implemented, what additional research might be needed?

1.16 Citation/ Referencing

In any academic writing, the researcher is required to identify for readers which ideas, facts, theories, concepts, etc., are his/hers and which are derived from the research and thoughts of others. Whether the ideas are summarized, paraphrased, or use as direct quotes, if it's not the researchers original idea, the source needs to be acknowledged. The only exception to this rule is information that is considered to be common knowledge [e.g., George Washington was the first president of the United States]. If in doubt regarding whether something is common knowledge, take the safe route and cite it the source of information according.

A citation is a reference to a published or unpublished source that you consulted and obtained information from while writing your research paper. The common ones are APA, MLA, Chicago, Turabian. Note that some disciplines have their own citation method [e.g., law].

Referencing styles or manual of styles is a compilation of a set of rules for scholarly publications. There are different types of styles. Each style has its peculiarities with differences in amount of details, referencing and other editorial details. Details on these will be shown in subsequent sections below.

Importance of a Citing Sources of Data

USC Libraries (2014) shows that citations show your readers where you obtained your material, provides a means of critiquing your study, and offers the opportunity to obtain additional information about the research problem under investigation.

Properly citing the works of others is important because:

1. **Proper citation allows others to locate the materials you used**. Citations to other sources helps readers expand their knowledge on a topic. In some disciplines, one of the most effective strategies for locating authoritative, relevant sources is to follow footnotes or references from known sources ["citation tracking"].
2. **Citing other people's words and ideas indicates that you have conducted thorough review of the literature on your topic** and, therefore, you are operating from an informed perspective. This increases your credibility as the author of the work.
3. **Other researcher's ideas can be used to reinforce your arguments**, or, if you disagree with them, can act as positions from which to argue an alternative viewpoint. In many cases, another researcher's arguments can act as the primary context from which you can emphasize a different viewpoint or to clarify the importance of what you are proposing.
4. **Just as other researcher's ideas can bolster your arguments and act as evidence for your ideas, they can also detract from your credibility if they are found to be mistaken or fabricated**. Properly citing information not

unique to you prevents your reputation from being tarnished if the facts or ideas of others are proven to be inaccurate or off-base.

5. **Outside academic, ideas are considered intellectual property and there can serious repercussions if you fail to cite where you got an idea from**. In the professional world, failure to cite other people's intellectual property ruins careers and reputations and can result in legal action. Given this, it is important to get into the habit of citing sources.

Structure and Writing Style

Referencing your sources means systematically showing what information or ideas you are quoting or paraphrasing from another author's work, and where they come from. You must cite research in order to do research, but at the same time, you must indicate what are your original thoughts and ideas and what are the thoughts and ideas of others.

General guidelines

1. **Should I avoid referencing other people's work?**
   No! Referencing other people's work is never an indication that your work is poor or lacks originality if placed in the proper context. In fact, the opposite is true. If you write your paper with no references to previous research, you are indicating to the reader that you are not familiar with the research that has already been done, thereby undermining your credibility as an author and the validity of your research. Including references in academic writing is a way of demonstrating your knowledge of pertinent literature about the research problem.
2. **What should I do if I find that my idea has already been published by another researcher?**
   Acknowledge the other researcher's work by writing in your reference something like this: [see also Smith, 2002]. Do not ignore another author's work because doing so will lead your readers to believe that you have either taken the idea or information without properly referencing it [this is plagiarism] or that you have failed to conduct a thorough review of the literature in your field.

3. **What should I do if I want to use an adapted version of someone else's work?**

You still must cite the original work. For example, maybe you are using a table of statistics from a journal article published in 1996 by author Smith, but you have altered or added new data to it. Reference the revised chart as: [adapted from Smith, 1996]. You can also use other terms in order to specify the exact relationship between the source and the version you have presented, such as, based on Smith [1996], summarized from Smith [1996], etc.

4. **What should I do if several authors have published very similar information or ideas?**

You can indicate that the idea or information can be found in the work of more than one author, by stating something like: "Though in fact many authors have applied this theory to understanding economic relations among nations [for example, Smith, 1989; Jones, 19991; Johnson, 1994], little work has been done on applying it to understand the actions of non-governmental organizations." If you only reference one author, then your readers may assume that only one author has published on this topic, or, conclude that you have not read the literature thoroughly knowing that others have published research in this area. Referencing multiple authors indicates to your readers a clear idea of the breadth of analysis you conducted about the research problem, not a distorted or incomplete one.

5. **What if I find exactly what I want to say in the writing of another researcher?**

It depends on what it is; if someone else has investigated precisely the same research problem as you, and then you likely will have to change your topic, or at the very least, find something new to say about what you're researching. However, if it is someone else's particularly succinct expression, but it fits perfectly with what you are trying to say, then you can quote directly, citing the page reference as well as the author and year of publication. Finding someone else who has stated or made the same point that you have is an opportunity to reinforce your own interpretation of the research problem.

1.16.1 American Psychological Association (APA)

An APA (American Psychological Association) reference is widely used and is our point of reference in the Institute. This section list in alphabetic order by author, all published information that was referred to anywhere in the text of the paper. It provide the reader the information needed should they want to refer to the original literature.

Important: Always ask your instructor what citation style is required for your assignment.

Overview of Recent APA Changes

The sixth edition of the APA *Publication Manual* includes two major changes that affect citing your sources:

1. When citing books published in the U.S., include the U.S. Postal Service abbreviations for the state of publication. If the publishing city is outside the U.S., include the city and country. Do not abbreviate the country.
E.g. Upper Saddle River, NJ
Los Angeles, CA
Toronto, Canada

2. When citing articles or e-books from library databases, include the digital object identifier (DOI) in the citation (e.g. doi: 10.1057/palgrave.kmrp.8500141) and do not include the URL, date of retrieval or the name of the database. If the DOI is not available, include the persistent URL of the article or e-book
(e.g. http://libezproxy.nait.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=22299882&site=ehost-live&scope=site).
Retrieved, August 2013, AD www.nait.ca/library 2

Guidelines for In-Text Citations & Reference Lists

In-Text Citations

1. Include the author's last name, the year of publication, and the page number (for quotes), either as part of the text of your paper or in parentheses. For example: (Smith, 2011, p. 17).
2. If a source has no author or editor, use a few words of the title instead.
3. Each in-text citation must lead to the full reference list entry for that source.

Reference Lists

1. The references page is usually located at the end of your written document. However, tables and/or appendices, if used, come after the references page.
2. The references page lists only the sources you cited in your paper. Every reference list entry should have at least one corresponding in-text citation.
3. Center the heading, References, at the top of the page.
4. Alphabetize entries in the References list by the authors' last names.
5. Author's first names are NOT included in the entries; include only the initials of given name(s). For example: **Wells, A.**
6. If a work has no author, place the title first and use that to alphabetize it within reference list. If there is no date, use (n.d.). For a full template explaining how to format your citation when information is missing, visit APA's reference template PDF: http://blog.apastyle.org/files/how-to-cite-something-you-found-on-a-website-in-apa-style---table-1.pdf
7. The date of publication appears immediately after the first element of the citation (usually the author's name). For example, Wells, A. (2005).
8. The references list is double-spaced within AND between citation entries.
9. Use the hanging indent format: each entry begins flush left, and any additional lines are indented one-half inch (or five spaces).
10. Capitalization matters; only the first word of titles and subtitles is capitalized, in addition to proper names. **However,** each significant word in the titles of journals, newspapers and magazines (for example, *Canadian Journal of Earth Sciences*) is capitalized and *italicized.* Titles of articles from journals are **NOT** italicized.
11. Use only the name of the publishing company (do not include "Company" or "Inc." etc.).

12. Do **NOT** insert a hyphen when dividing a web address (URL) at the end of a link.

13. URLs/web addresses should **NOT** be hyperlinks. Use plain black text.

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1.16.2 Modern Language Association (MLA)

The Modern Language Association (MLA) establishes values for acknowledging sources used in a research paper. MLA citation style uses a simple two-part parenthetical documentation system for citing sources: Citations in the text of a paper point to the alphabetical Works Cited list that appears at the end of the paper. Together, these references identify and credit the sources used in the paper and allow others to access and retrieve this material.

This guide provides basic explanations and examples for the most common types of citations used by students. For additional information and examples, refer to the *MLA Handbook*.

Updates from the new edition

MLA no longer requires underlining. Titles, such as book and periodical titles are now *italicized* rather than underlined. URLs are no longer required in citations. Due to the changeable nature of the URLs, MLA recommends that writers only include a web address if the audience is unlikely to find the source otherwise.

Abbreviations: Many sources do not have a date, publisher or pagination. MLA advises, where applicable, to write **n. pag.** for those sources without page numbers, **n.d.** for no date, and **N.p.** if name of the publisher is omitted.

All entries in a reference list, whether they are print or electronic, must now include the medium in which they have been published (Print, Web, DVD, Television, etc.).

Parenthetical References

Parenthetical documentation allows you to acknowledge a source within your text by providing a reference to exactly where in that source you found the information. The

reader can then follow up on the complete reference listed on the Works Cited page at the end of your paper.

Let's examine some examples,

a. In most cases, providing the author's last name and a page number are sufficient: *In response to rapid metropolitan expansion, urban renewal projects sought "an order in which more significant kinds of conflict, more complex and intellectually stimulating kinds of disharmony, may take place" (Mumford 485).*
b. If there are two or three authors, include the last name of each: (Winks and Kaiser 176) (Choko, Bourassa, and Baril 258-263)
c. If there are more than three authors, include the last name of the first author followed by "et al." without any intervening punctuation: (Baldwin et al. 306)
d. If the author is mentioned in the text, only the page reference needs to be inserted: According to Postman, broadcast news influences the decision-making process (51-63).
e. If there is no author, as is the case with some web pages, include either the whole title of the work in the text or use a shortened form of the title in parentheses, using the first words of the title. Italicize the titles of books and place the titles of articles in quotation marks: *Voice of the Shuttle* has many electronic sources.
f. If there are no page numbers in your source, as is the case with some web pages, you can indicate the section or paragraph number in your parenthetical reference. If there are no such reference marks, do not include them in your reference. Do not count unnumbered paragraphs: Winston argues that "Rourke has lowered his defenses" (par. 29).
g. When citing a quotation which is cited in another source, indicate the source you actually consulted in your parenthetical reference and in your works cited. Use the abbreviation **qtd. in** to indicate that the information has been quoted in another source: Landow admitted that there was "work to be done" (qtd. in Rogers 333).

Further examples and explanations are available in Chapter 6 of the *MLA Handbook*.

Works cited - General guidelines

The alphabetical list of works cited that appears at the end of your paper contains more information about all of the sources you've **cited** allowing readers to refer to them, as needed. The main characteristics are:
The list of Works Cited must be on a new page at the end of your text
Entries are arranged alphabetically by the author's last name or by the title if there is no author
Titles are *italicized* (not <u>underlined</u>) and all important words should be capitalized
Entries are double-spaced (for the purposes of this page, single-spacing is used)
Each entry must include the publication medium. Examples include: Print, Web, DVD, and Television.

Works cited - Book with 1 author

Mumford, Lewis. *The Culture of Cities.* New York: Harcourt, 1938. Print.

Works cited - Book with 2 or 3 authors

Francis, R. Douglas, Richard Jones, and Donald B. Smith. *Destinies: Canadian History since Confederation.* Toronto: Harcourt, 2000. Print.

Works cited - Book with 4 or more authors

Baldwin, Richard et al. *Economic Geography and Public Policy*. Princeton: Princeton UP, 2003. Print.

Works cited - Two or more books by the same author

Replace the author's name by three hyphens and arrange alphabetically by the book's title: Postman, Neil. *Amusing Ourselves to Death: Public Discourse in the Age of Show Business.* New York: Viking, 1985. Print.

---. *The Disappearance of Childhood.* New York: Vintage, 1994. Print.

Works cited - Anthology or compilation

Abate, Corinne S., ed. *Privacy, Domesticity, and Women in Early Modern England.* Burlington, VT: Ashgate, 2003. Print.

Works cited - Work in an anthology or an essay in a book

Naremore, James. "Hitchcock at the Margins of Noir." *Alfred Hitchcock: Centenary Essays.* Ed. Richard Allen and S. Ishii-Gonzalès. London: BFI, 1999. 263-77. Print.

Works cited - Book by a corporate author

Associations, corporations, agencies and organizations are considered authors when there is no single author.

Organisation for Economic Co-operation and Development. *Action against Climate Change: The Kyoto Protocol and Beyond.* Paris: OECD, 1999. Print.

Works cited - Article in a reference book or an entry in an encyclopedia

If the article/entry is signed, include the author's name; if unsigned, begin with the title of the entry

Guignon, Charles B. "Existentialism." *Routledge Encyclopedia of Philosophy.* Ed. Edward Craig. 10 vols. London: Routledge, 1998. Print.

Works cited - Article reprinted in a reference book online

Carlson, Eric W. "The Range of Symbolism in Poetry." *The South Atlantic Quarterly* 48. (1949): 442-52. Rpt. in *Poetry Criticism.* Ed. Jane Kelly Kosek and Christine Slovey. Vol. 13. Detroit: Gale, 1995. 83-84. *Literature Criticism Online.* Web. 18 Oct. 2009.

Works cited - A translation

Kafka, Franz. *Metamorphosis.* Trans. and Ed. Stanley Corngold. New York: Bantam, 1972. Print.

Works cited - A government publication

Canada. Dept. of Foreign Affairs and International Trade. *Freedom from Fear: Canada's Foreign Policy for Human Security.* Ottawa: DFAIT, 2002. Print.

United Nations. Dept. of Economic and Social Affairs. Population Division. *Charting the Progress of Populations.* New York: UN, 2000. Print.

Works cited - Book in a series

Bloom, Harold, ed. *André Malraux.* New York: Chelsea House, 1988. Print. Modern Critical Views.

Works cited - Article in a journal

Article retrieved in print/paper format:

Ferrer, Ada. "Cuba 1898: Rethinking Race, Nation, and Empire." *Radical History Review* 73 (1999): 22-49. Print.

Man, Glenn K. S. "The Third Man: Pulp Fiction and Art Film." *Literature Film Quarter* 21.3 (1993): 171-178. Print.

Article retrieved on the Web:

Sehmby, Dalbir S. "Wrestling and Popular Culture." *CCLWeb: Comparative Literature and Culture* 4.1 (2002): n. pag. Web. 29 Mar. 2009.

Article retrieved in a library database:

Provide the same information as you would for a printed journal article and add the name of the database in *italics,* and indicate the publication medium as **Web** and the date of access.

NOTE - If there are no page numbers, or if the page numbers for each article in a journal appear in a new sequence for each item rather than continuously across the entire issue, write **n. pag**.

Brennan, Katherine Stern. "Culture in the Cities: Provincial Academies during the Early Years of Louis XIV's Reign." *Canadian Journal of History* 38.1 (2003): 19-42. *CBCA Complete.* Web. 29 Mar. 2004.

Dussault, Marc and Bruce G. Barnett. "Peer-assisted Leadership: Reducing Educational Managers' Professional Isolation." *Journal of Educational Administration* 34.3 (1996): 5-14. *ABI/INFORM Global.* Web. 29 Mar. 2004.

Heming, Li, Paul Waley, and Phil Rees. "Reservoir Resettlement in China: Past Experience and the Three Gorges Dam." *The Geographical Journal* 167.3 (2001): 195-212. *Academic Search Premier.* Web. 29 Mar. 2004.

Works cited - Article in a newspaper or magazine

Semenak, Susan. "Feeling Right at Home: Government Residence Eschews Traditional Rules." *Montreal Gazette* 28 Dec. 1995, Final Ed.: A4. Print.

Driedger, Sharon Doyle. "After Divorce." *Maclean's* 20 Apr. 1998: 38-43. Print.

For newspaper and magazine articles retrieved online, please see examples for journal articles retrieved from a library database.

Works cited - An entire Web site

Linder, Douglas O. *Famous Trials.* Univ. of Missouri Kansas-City Law School, 2009. Web. 29 Apr. 2009.

Works cited - A page on a Web site

An entry for a non periodical item found on the Web contains the following:
Last name, First name. "Document title if available." *Title of the overall Web site.* Version or edition if available. Publisher or N.p. to designate no publisher, publication date or n.d. to mean no date. Web. Date of access.

If you cannot find some of this information, include only what is available.
"Joyce Wieland." *Celebrating Women's Achievements: Women Artists in Canada.* National Library of Canada, 2000. Web. 29 Mar. 2004.

Cassidy, Penny. "You Can't Read That." *NBC New York.* NBC Universal, 18 Apr. 2009. Web. 29 Apr. 2009.

Works cited - A review

Kirn, Walter. "The Wages of Righteousness." Rev. of *Cloudsplitter,* by Russell Banks. *New York Times Book Review* 22 Feb. 1998: 9. Print.

Kauffmann, Stanley. "A New Spielberg." Rev of *Schindler's List,* dir. Steven Spielberg. *New Republic* 13 Dec. 1993: 30. Print.

Works cited - Television or radio program

"Scandal of the Century." Narr. Linden MacIntyre. *The Fifth Estate.* CBC Television. 23 Jan. 2002. Television.

Works cited - Sound recording

Ellington, Duke. "Black and Tan Fantasy." *Music is My Mistress.* Musicmasters, 1989. CD.

Works cited - Film, video recording or DVD

The Shining. Dir. Stanley Kubrick. Perf. Jack Nicholson, Shelley Duvall. Warner Bros., 1980. Videocassette.

Macbeth. Dir. Roman Polanski. Perf. Jon Finch, Francesca Annis, and Nicholas Selby. 1971. Columbia, 2002. DVD.

Works cited - Musical composition, published score

Beethoven, Ludwig van. *Symphony no. 4 in B-flat major, op. 60.* Mineola, NY: Dover, 2001. Print.

Works cited - Work of art, photographed, in a book

Cassatt, Mary. *Mother and Child.* 1890. Wichita Art Museum, Wichita. *American Painting: 1560-1913.* By John Pearce. New York: McGraw, 1964. Slide 22.

All fields of research agree on the need to document scholarly borrowings, but documentation conventions vary because of the different needs of scholarly disciplines. MLA style for documentation is widely used in the humanities, especially in writing on language and literature. Generally simpler and more concise than other styles, MLA style features brief parenthetical citations in the text keyed to an alphabetical list of works cited that appears at the end of the work.

MLA style has been widely adopted by schools, academic departments, and instructors for over half a century. The association's guidelines are also used by over 1,100 scholarly and literary journals, newsletters, and magazines and by many university and commercial presses. The MLA's guidelines are followed throughout North America and in Brazil, China, India, Japan, Taiwan, and other countries around the world.

1.16.3 Chicago Referencing Style

As used in: English (as well as MLA), History, and History of Art.

The guide has been compiled using *The Chicago Manual of Style* (16th ed.). Chicago is a style using footnotes to detail in-text citations, with a reference list/ bibliography of all sources cited, presented at the end of the piece of work in alphabetical order by author. It is important to give page numbers for in-text citations in the following circumstances:

a. when quoting directly

b. when referring to a specific detail in a text (for example, a specific theory or idea, an illustration, a table, a set of statistics)

c. when giving a paraphrase or summary of a text.

The Chicago Manual of Style presents two basic documentation systems: (1) notes and bibliography and (2) author-date. Choosing between the two often depends on subject matter and the nature of sources cited, as each system is favored by different groups of scholars.

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. It accommodates a variety of sources, including esoteric ones less appropriate to the author-date system.

The author-date system has long been used by those in the physical, natural, and social sciences. In this system, sources are briefly cited in the text, usually in parentheses, by author's last name and date of publication. The short citations are amplified in a list of references, where full bibliographic information is provided.

Aside from the use of notes versus parenthetical references in the text, the two systems share a similar style. Click on the tabs below to see some common examples of materials cited in each style, including examples of common electronic sources. For numerous specific examples, see chapters 14 and 15 of the 16th edition of The Chicago Manual of Style.

Notes and Bibliography: Sample Citations

The following examples illustrate citations using the notes and bibliography system. Examples of notes are followed by shortened versions of citations to the same source. For more details and many more examples, see chapter 14 of The Chicago Manual of Style. For examples of the same citations using the author-date system, click on the Author-Date tab above.

Book

One author

1. Michael Pollan, The Omnivore's Dilemma: A Natural History of Four Meals (New York: Penguin, 2006), 99–100.

2. Pollan, Omnivore's Dilemma, 3.

Pollan, Michael. The Omnivore's Dilemma: A Natural History of Four Meals. New York: Penguin, 2006.

Two or more authors

1. Geoffrey C. Ward and Ken Burns, The War: An Intimate History, 1941–1945 (New York: Knopf, 2007), 52.

2. Ward and Burns, War, 59–61.

Ward, Geoffrey C., and Ken Burns. The War: An Intimate History, 1941–1945. New York: Knopf, 2007.

For four or more authors, list all of the authors in the bibliography; in the note, list only the first author, followed by et al. ("and others"):

1. Dana Barnes et al., Plastics: Essays on American Corporate Ascendance in the 1960s…

2. Barnes et al., Plastics…

Editor, translator, or compiler instead of author

1. Richmond Lattimore, trans., The Iliad of Homer (Chicago: University of Chicago Press, 1951), 91–92.

2. Lattimore, Iliad, 24.

Lattimore, Richmond, trans. The Iliad of Homer. Chicago: University of Chicago Press, 1951.

Editor, translator, or compiler in addition to author

1. Gabriel García Márquez, Love in the Time of Cholera, trans. Edith Grossman (London: Cape, 1988), 242–55.

2. García Márquez, Cholera, 33.

García Márquez, Gabriel. Love in the Time of Cholera. Translated by Edith Grossman. London: Cape, 1988.

Chapter or other part of a book

1. John D. Kelly, "Seeing Red: Mao Fetishism, Pax Americana, and the Moral Economy of War," in Anthropology and Global Counterinsurgency, ed. John D. Kelly et al. (Chicago: University of Chicago Press, 2010), 77.
2. Kelly, "Seeing Red," 81–82.

Kelly, John D. "Seeing Red: Mao Fetishism, Pax Americana, and the Moral Economy of War." In Anthropology and Global Counterinsurgency, edited by John D. Kelly, Beatrice Jauregui, Sean T. Mitchell, and Jeremy Walton, 67–83. Chicago: University of Chicago Press, 2010.

Chapter of an edited volume originally published elsewhere (as in primary sources)

1. Quintus Tullius Cicero, "Handbook on Canvassing for the Consulship," in Rome: Late Republic and Principate, ed. Walter Emil Kaegi Jr. and Peter White, vol. 2 of University of Chicago Readings in Western Civilization, ed. John Boyer and Julius Kirshner (Chicago: University of Chicago Press, 1986), 35.
2. Cicero, "Canvassing for the Consulship," 35.

Cicero, Quintus Tullius. "Handbook on Canvassing for the Consulship." In Rome: Late Republic and Principate, edited by Walter Emil Kaegi Jr. and Peter White. Vol. 2 of University of Chicago Readings in Western Civilization, edited by John Boyer and Julius Kirshner, 33–46. Chicago: University of Chicago Press, 1986. Originally published in Evelyn S. Shuckburgh, trans., The Letters of Cicero, vol. 1 (London: George Bell & Sons, 1908).

Preface, foreword, introduction, or similar part of a book

1. James Rieger, introduction to Frankenstein; or, The Modern Prometheus, by Mary Wollstonecraft Shelley (Chicago: University of Chicago Press, 1982), xx–xxi.
2. Rieger, introduction, xxxiii.

Rieger, James. Introduction to Frankenstein; or, The Modern Prometheus, by Mary Wollstonecraft Shelley, xi–xxxvii. Chicago: University of Chicago Press, 1982.

Book published electronically

If a book is available in more than one format, cite the version you consulted. For books consulted online, list a URL; include an access date only if one is required by your publisher or discipline. If no fixed page numbers are available, you can include a section title or a chapter or other number.

1. Jane Austen, Pride and Prejudice (New York: Penguin Classics, 2007), Kindle edition.
2. Philip B. Kurland and Ralph Lerner, eds., The Founders' Constitution (Chicago: University of Chicago Press, 1987), accessed February 28, 2010, http://press-pubs.uchicago.edu/founders/.
3. Austen, Pride and Prejudice.
4. Kurland and Lerner, Founder's Constitution, chap. 10, doc. 19.

Austen, Jane. Pride and Prejudice. New York: Penguin Classics, 2007. Kindle edition.

Kurland, Philip B., and Ralph Lerner, eds. The Founders' Constitution. Chicago: University of Chicago Press, 1987. Accessed February 28, 2010. http://press-pubs.uchicago.edu/founders/.

Journal Article

Article in a print journal

In a note, list the specific page numbers consulted, if any. In the bibliography, list the page range for the whole article.

1. Joshua I. Weinstein, "The Market in Plato's Republic," Classical Philology 104 (2009): 440.
2. Weinstein, "Plato's Republic," 452–53.

Weinstein, Joshua I. "The Market in Plato's Republic." Classical Philology 104 (2009): 439–58.

Article in an Online Journal

Include a DOI (Digital Object Identifier) if the journal lists one. A DOI is a permanent ID that, when appended to http://dx.doi.org/ in the address bar of an Internet browser, will lead to the source. If no DOI is available, list a URL. Include an access date only if one is required by your publisher or discipline.

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.

2. Kossinets and Watts, "Origins of Homophily," 439.

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.

Article in a newspaper or popular magazine

Newspaper and magazine articles may be cited in running text ("As Sheryl Stolberg and Robert Pear noted in a New York Times article on February 27, 2010, . . .") instead of in a note, and they are commonly omitted from a bibliography. The following examples show the more formal versions of the citations. If you consulted the article online, include a URL; include an access date only if your publisher or discipline requires one. If no author is identified, begin the citation with the article title.

1. Daniel Mendelsohn, "But Enough about Me," New Yorker, January 25, 2010, 68.
2. Sheryl Gay Stolberg and Robert Pear, "Wary Centrists Posing Challenge in Health Care Vote," New York Times, February 27, 2010, accessed February 28, 2010, http://www.nytimes.com/2010/02/28/us/politics/28health.html.
3. Mendelsohn, "But Enough about Me," 69.
4. Stolberg and Pear, "Wary Centrists."

Mendelsohn, Daniel. "But Enough about Me." New Yorker, January 25, 2010.

Stolberg, Sheryl Gay, and Robert Pear. "Wary Centrists Posing Challenge in Health Care Vote." New York Times, February 27, 2010. Accessed February 28, 2010. http://www.nytimes.com/2010/02/28/us/politics/28health.html.

Book Review

1. David Kamp, "Deconstructing Dinner," review of The Omnivore's Dilemma: A Natural History of Four Meals, by Michael Pollan, New York Times, April 23, 2006, Sunday Book Review, http://www.nytimes.com/2006/04/23/books/review/23kamp.html.
2. Kamp, "Deconstructing Dinner."

Kamp, David. "Deconstructing Dinner." Review of The Omnivore's Dilemma: A Natural History of Four Meals, by Michael Pollan. New York Times, April 23, 2006, Sunday Book Review. http://www.nytimes.com/2006/04/23/books/review/23kamp.html.

Thesis or Dissertation

1. Mihwa Choi, "Contesting Imaginaires in Death Rituals during the Northern Song Dynasty" (PhD diss., University of Chicago, 2008).
2. Choi, "Contesting Imaginaires."

Choi, Mihwa. "Contesting Imaginaires in Death Rituals during the Northern Song Dynasty." PhD diss., University of Chicago, 2008.

Paper presented at a meeting or conference

1. Rachel Adelman, " 'Such Stuff as Dreams Are Made On': God's Footstool in the Aramaic Targumim and Midrashic Tradition" (paper presented at the annual meeting for the Society of Biblical Literature, New Orleans, Louisiana, November 21–24, 2009).
2. Adelman, "Such Stuff as Dreams."

Adelman, Rachel. " 'Such Stuff as Dreams Are Made On': God's Footstool in the Aramaic Targumim and Midrashic Tradition." Paper presented at the annual meeting for the Society of Biblical Literature, New Orleans, Louisiana, November 21–24, 2009.

Website

A citation to website content can often be limited to a mention in the text or in a note ("As of July 19, 2008, the McDonald's Corporation listed on its website . . ."). If a more formal citation is desired, it may be styled as in the examples below. Because such content is subject to change, include an access date or, if available, a date that the site was last modified.

1. "Google Privacy Policy," last modified March 11, 2009, http://www.google.com/intl/en/privacypolicy.html.
2. "McDonald's Happy Meal Toy Safety Facts," McDonald's Corporation, accessed July 19, 2008, http://www.mcdonalds.com/corp/about/factsheets.html.
3. "Google Privacy Policy."
4. "Toy Safety Facts."

Google. "Google Privacy Policy." Last modified March 11, 2009. http://www.google.com/intl/en/privacypolicy.html.

McDonald's Corporation. "McDonald's Happy Meal Toy Safety Facts." Accessed July 19, 2008. http://www.mcdonalds.com/corp/about/factsheets.html.

Blog entry or comment

Blog entries or comments may be cited in running text ("In a comment posted to The Becker-Posner Blog on February 23, 2010, . . .") instead of in a note, and they are commonly omitted from a bibliography. The following examples show the more formal versions of the citations. There is no need to add pseud. after an apparently fictitious or informal name. (If an access date is required, add it before the URL; see examples elsewhere in this guide.)

1. Jack, February 25, 2010 (7:03 p.m.), comment on Richard Posner, "Double Exports in Five Years?," The Becker-Posner Blog, February 21, 2010, http://uchicagolaw.typepad.com/beckerposner/2010/02/double-exports-in-five-years-posner.html.
2. Jack, comment on Posner, "Double Exports."

Becker-Posner Blog, The. http://uchicagolaw.typepad.com/beckerposner/.

E-mail or text message

E-mail and text messages may be cited in running text ("In a text message to the author on March 1, 2010, John Doe revealed . . .") instead of in a note, and they are rarely listed in a bibliography. The following example shows the more formal version of a note.

1. John Doe, e-mail message to author, February 28, 2010.

Item in a commercial database

For items retrieved from a commercial database, add the name of the database and an accession number following the facts of publication. In this example, the dissertation cited above is shown as it would be cited if it were retrieved from ProQuest's database for dissertations and theses.

Choi, Mihwa. "Contesting Imaginaires in Death Rituals during the Northern Song Dynasty." PhD diss., University of Chicago, 2008. ProQuest (AAT 3300426

A corresponding reference that would appear in the reference list/ bibliography is also given. It is important also to note in some examples where departments have a particular preference regarding the information to include in the references.

1.16.4 The Footnote / Bibliography or 'oxford' Referencing System

The Footnote/ Bibliography method requires two elements: footnotes throughout your assignment, and a bibliography or list of references at the end.

How to footnote

Footnotes (sometimes just called 'notes') are what they sound like—a note (or a reference to a source of information) which appears at the foot (bottom) of a page. In a footnote referencing system, you indicate a reference by: *putting a small number above the line of type directly following the source material. This number is called a note identifier. It sits slightly above the line of text.*

It looks like this.[1]

Putting the same number, followed by a citation of your source, at the bottom of the page. Footnoting should be numerical and chronological: the first reference is 1, the second is 2, and so on. The advantage of footnoting is that the reader can simply cast their eyes down the page to discover the source of a reference which interests them.

In the text

Note identifiers should be placed at the end of a sentence, and follow any punctuation marks (but precede a dash). If you use a long quotation (more than three lines of text), the note identifier should be placed at the end of the quotation.

Lake points out that a division began in the latter half of the nineteenth century with the doctrine of 'separate spheres'.[1]

At the foot of the page

When you reference a source for the first time, you must provide full bibliographic information (information about the source). This includes:

a. author(s) initial(s) and surname(s)
b. name of the article, book or journal
c. editors (if applicable)
d. publisher name and location
e. year published

2. You should give exact page numbers if your reference is a direct quotation, a paraphrase, an idea, or is otherwise directly drawn from the source.

M Lake, 'Intimate strangers' in *Making a Life: a People's History of Australia Since 1788*, V. Burgman and J. Lee (eds), Penguin, Victoria, 1988, p. 155.

Footnote Formatting

a. Titles of publications should be italicised.
b. Use minimum capitalisation for publication titles.
c. Use minimal capitalisation for journal or book article titles.
d. Article titles should be enclosed between single quotation marks.
e. Use commas to separate each item of the citation and end with a full stop.

Second and Subsequent Footnoting

Second and subsequent references to the same source don't need to be as detailed as the first note—they just need the minimum information to clearly indicate which text is being referred to.

With a Single Author

Provide all the necessary information in the first footnote. If you want to refer to the same source again, a simple method is to give the author's name, the year of publication and the page number. For example:

[1] K Reid, *Higher Education or Education for Hire? Language and Values in Australian Universities,* CQU Press, Rockhampton, 1996, p. 87.

[2] ...

[3] Reid, p. 98.

If two or more works by the same author are referred to in the text, include the title:

[1] E Gaskell, *North and South,* Penguin, Harmondsworth, 1970, p. 228.

[2] E Gaskell, *The Life of Charlotte Brontë,* Penguin, Harmondsworth, 1975, p. 53.

[3] Gaskell, North and South, p. 222.

Subsequent references to articles are done in a similar way:

[17] M Doyle, 'Captain Mbaye Diagne', *Granta,* vol. 48, August 1994, pp. 99-103.

[18] ...

[19] Doyle, *Granta,* p. 101.

Abbreviations for Subsequent Footnoting

Another way to shorten second or subsequent references is with Latin abbreviations. For example:

ibid = same as last entry
Use ibid when two references in a row are from the same source.

op. cit.= as previously cited
Use op. cit. when you have already given full details of that source in an earlier note. When using op. cit. you still need to provide information such as the author's name to make the source clear. These abbreviations should be in lowercase, even when they appear at the beginning of a note. For further information, see p. 214- 5 of the Style Manual.

Examples
[11] K Reid, *Higher Education or Education for Hire? Language and Values in Australian Universities,* CQU Press, Rockhampton, 1996, p. 87.
[12] ibid., p. 26.
[13] M Doyle, 'Captain Mbaye Diagne', *Granta,* vol. 48, August 1994, p. 99.
[14] Reid, op. cit., p. 147.

1.17 Use of Computers and The Internet for Research Purpose
The internet is a very useful tool for research and it is free for all. It aids access to information loading and retrieval. Unlike printed scholarly journals and books, web materials may or may not be refereed or reviewed. Getting quality web materials could also be very tasking.

1.18 Writing a Scholarly and Academic Paper
This is the wrap up session, were all the ideas are put together and used to explain the different parts of an academic paper. A simple research paper should be logically arranged in order presented below,

1. Abstract
2. Introduction/Background to the study
3. Literature review
4. Research methodology
5. Results and discussions
6. Conclusions
7. References


Section 2

MULTI-DISCIPLINARY APPROACH TO WRITING SCHOLARLY ARTICLES

2.1 ***Guide to scientific research writing:*** **Biological and Other Basic Medical Sciences**

2.2 ***Guide to scientific research writing:*** **Social and Management Sciences**

2.2.1 Title: Income and Consumption Behaviour in Nigeria: An Application of Keynesian Approach

2.3 ***Guide to scientific Research writing:*** **Education**

2.1 Guide to Scientific Research Writing: BIOLOGICAL AND OTHER BASIC MEDICAL SCIENCES

Scientific experiments are demanding, exciting endeavors, but, to have an impact, results must be communicated to others. A research paper is a method of communication, an attempt to tell others about some specific data that you have gathered and what you think those data mean in the context of your research. The paper obviously requires proper usage of English Language and this will be considered in evaluating your reports. Scientific papers must be written clearly and concisely so that readers with backgrounds similar to yours can understand easily what you have done and how you have done it should they want to repeat or extend your work. When writing papers for Biological sciences, you can assume that your audience will be readers like yourselves with similar Knowledge.

Although scientific journals differ somewhat in their specific requirements, a general format that would be acceptable for most biological journals is:

1. Title
2. Abstract
3. Introduction
4. Materials and Methods
5. Results
6. Discussion
7. Conclusions
8. Acknowledgements
9. Literature cited/References

These guidelines will help you to cite your research sources according to the APA style. Included are examples of both in-text citations and References list citations. These guidelines are based on the sixth edition (2010, second printing) of the *Publication Manual of the American Psychological Association* and the FAQs on the APA website (www.apastyle.org/faqs.html#3).

Important: Always ask your instructor what citation style is required for your assignment.

The sections headings (Abstract, Introduction etc) should be **centered and** the body of each section should follow immediately below the heading. Do not begin each section on a new page. One important general rule to keep in mind is that a scientific paper is a report about something that has been done in the past. Most of the paper should be written in the **Past tense** (was, were). The present tense (is and are) are used when stating generalizations or conclusions. Present tenses are often used in the Introduction, Discussion and Conclusion sections of papers. The paper should read as narrative in which the author describes what was done and what results were obtained from that work.

Title of the Article

A Title that captures the whole area of your research, sometimes a more generalized title is better than an overtly specific one. Titles that can make your article sell and gain clicks should be considered. Avoid the use of abbreviations and unnecessary" AND" words .A very long title is not very good because the reader will have difficulty in perceiving the content.

Every scientific paper must have a self-explanatory title. By reading the title, the work being reported should be clear to the reader without having to read the paper itself. The Title" **A Biology laboratory report**" tells the reader nothing. An example of a good, self-explanatory title would be "**The Effect of Light and Temperature on the Growth of Populations of the Bacterium .*Escherichia coli.*** This title reports exactly what the researcher has done by stating three things:

(1) the environmental Factors that were manipulated (Light, temperature.)

(2) the parameter that was measured(growth)

(3) the specific organism that was studied(*Escherichia coli*). Exceptions do occur if several factors were manipulated or several organisms considered, then generalization of **Environmental Factors** and **Organisms** can be employed as appropriate.

Abstract

This part is a concise digest of the content of the paper. It is more than a summary. It should be self-explanatory without reference to the paper, but is not a substitute for the paper. It should be about (200-250) words or less, which should contain: the purpose of

the paper, general materials and methods, (including if any, the scientific and common names of organisms) summarized results, and the major conclusions. Do not include any information that is not contained in the body of the paper. Exclude detailed description of organisms, materials and methods. Tables or figures, references to Tables or figures or references to literature cited are not included in this section. The abstract is usually written last. An easy way to write the abstract is to extract the most important points from each section of the paper and then use those points to construct a brief description of your study. It should be in one paragraph of single line spacing. Always remember that a good abstract is one of the most central element of luring other people to read it and may influences the acceptance of your article.

Key words: Major words that made the headlines of the paper usually not more than 5words.

Introduction

Every scientific report needs an introduction, though it is sometimes broken down into different components. The length of an introduction depends on the journal and the paper; however, the structure and content should be similar. In the introduction, the author must present the problem his or her research will address, why this problem is significant, and how it applies to the larger field of research. It should give readers enough information to appreciate your specific objectives within a larger theoretical framework. After placing your work in a broader context, you should state the specific question(s) to be answered. All background information gathered from other sources must, of course be appropriately cited,(As it will be described latter). It shouldn't be too broad, present only the most relevant ideas. In the introduction, the author must not forget to present the problem his or her research will address, why this problem is significant, and how it applies to the larger field of research. The author must clearly state his or her hypothesis, and quickly summarize the methods used to investigate that hypothesis .The author should address relevant studies by other researchers; however, a full history of the topic is not needed. The introduction should contain all the background information a reader needs to understand the rest of the author's paper but not so detailed as to bog down a professional reader.

Materials and Methods

In this section, several key points do need to be addressed. You should thoroughly describe the method you used to investigate the problem, and should briefly describe why these methods were used. Any materials used should be documented, and any computer programs used should be discussed. This section should address the experiments, models, or theories devised. It should contain little to no background information, since this information should be placed in the introduction. If any work was done in a natural habitat, the author should describe the study area, state its location and explain when the work was done. If specimens were collected for study, where and when that material was collected is stated. The general rule to remember is that the materials and methods section should be detailed and clear enough so that any reader knowledgeable in basics scientific techniques could duplicate the study if need be. Also, the *Methods* section should contain no results.

Results

Here the researcher presents summarized data (not raw data) for inspection using a narrative text. In this section, the author should thoroughly detail the results of the experiments, models, or theories developed in the body of the article. The results should be supplemented by figures and tables, which should be briefly explained. *No interpretations or conclusions should be drawn.* All interpretation and discussion of the results should be saved for the Discussion and Conclusions section.

Discussion and Conclusions

Most journals require a discussion and/or conclusions section. In some cases, when the author has many points to discuss, he or she may split this into two sections; however, one section is usually sufficient. Here the researcher interprets the data in terms of any patterns that were observed any relationships among experimental variables that are important and any correlations between them. In this section, the author should restate the problem he or she was attempting to address, and summarize how the results have addressed it. The author should discuss the significance of all the results, and interpret their meaning. Potential sources of error should be discussed, and anomalies analyzed. Finally, the author should tie his or her conclusions into the "big picture" by suggesting the impact and applications this research might have. This can be accomplished by

discussing how the results of this paper will affect the author's field, what future experiments could be carried out based on this research, or what effect the conclusions could have on industry.

Acknowledgments

An acknowledgements section is not usually required; however, most papers include a paragraph of acknowledgements and thanks for help received on the research or the paper. In journals where the reviewer's names are revealed, it is considered polite for the author to acknowledge the help of the reviewers.

Literature Cited/References

As earlier stated above, this section list in alphabetic order by author, all published information that was referred to anywhere in the text of the paper. It provide the reader the information needed should they want to refer to the original literature.

2.2 Guide to scientific research writing: SOCIAL AND MANAGEMENT SCIENCES

Introduction

Generally 'research' is a creative work embarks upon a systematic foundation in order to widening the stock of knowledge of a man, culture and society, and to convert this stock of knowledge into formulating new applications. Research is undertaken to ascertain or verify facts, reiterate the results of past studies, solving new or existing problems, support theorems or formulate new theories. Even the word 'research' is derived from the middle French which means 'to go about seeking'; in the broadest sense research involves any gathering of data, information and facts for the improvement of knowledge. According to Creswell (2008) 'Research is a process of steps used to collect and analyze information to increase our understanding of a topic or issue, it encompasses three steps; pose a question, collect data to answer the question and present an answer to the question.

Research is categories into Applied, pure or basic, experimental and development research, however, there exists other various forms of research, this include scientific, humanities or social, artistic, and practitioner to mentioned but few. Scientific research depends on the application of the scientific technique, a harness of curiosity, it provides

scientific information and theories for describing and understanding nature and the properties of the world; scientific research renders practical applications possible which is usually funded by public authorities, charitable organizations, universities, research bodies and other private individuals.

Research in humanities or social science involves different methods such as example hermeneutics and semiotics and others (Wikipedia), in humanities scholars do not usually search for the for the final correct answer to a question, but instead investigate the issues and details that surround the question. A research in social science is an example of applied research, because it involves a systematic application of scientific techniques or methods in solving practical societal problems, it also help to study and understanding human behaviours under certain conditions.

Considering the current challenges facing researchers to meets the global standard in conducting research and the urgent need to improve the quality of researches in the Nigerian educational system, it becomes imperative to observe certain steps, though the steps vary depends on the subject area or topic and the researchers. However, this paper looks into stages or methods which are most formal and commonly use in empirical research in social science. Apart from this introduction section, the position paper examines some basic requirement s of a good research. This is followed in section three the steps in conducting research. The last section is the conclusion part of the paper.

Basic requirements of a good research in social and management sciences

Research is considered as a touch that keeps knowledge lightning, it therefore possesses a good number of requirements to be qualified as a good research, these include effective communication skills, in-depth knowledge one's discipline, computer literacy, knowledge of statistics and observing high ethical standards. These can be discussed below:

I. English is the official language of communication in Nigeria; therefore, it is imperative for the researcher to have a good command of English. There are several ways in which skills in English communication can be developed or improved; these include reading, speaking, writing and listening. Reading involves regular reading of text or materials written in good English, books of English grammar, frequent reading of magazines, newspapers and novels.

Speaking on the other hand consists of constant oral communication in English at home, school, market and office or in the working places. Writing an articles or short essay writing can help the researcher to learn and to enhance his communication skills, one can equally submit his academic paper to senior colleague from English department for proofreading before submitting the article for conference or publication. Other ways through which a researcher can overcome the main challenge of grammatical problem is through listening to the excellent speakers of English language, this can be achieved by watching TV channels such as BBC, CNN and many others.

ii. In-depth knowledge of one's discipline is paramount in research, a good mastering of one's discipline can be possible through reading widely and extensively on the journal articles, periodicals, books or other source of literatures related to one's discipline and related disciplines, these publications of research materials can be access either through the internet or direct purchase of the journals both locally and internationally.

iii. Computer literacy: in this modern world computer is an essential tool for research, thus, knowledge about computer and its applications are indispensable. In particular a researcher has to be familiarized with the application of statistical packages or soft wares programmes such as Eviews, Statistical Package of Social Science (SPSS), Stata among others, therefore, knowledge about these programmes is essential in describing and analyzing a statistical data/information. A researcher should also learn how to use MS word, excel and power point for typing skills, storing data or information and presentation of the research work systematically and efficiently. With the advancement of computer technology researcher no longer has to waste valuable time scavenging through the library in search of materials to write a research paper, because it involves cost and consumed more time. Thus, good knowledge of computer and internet can help someone to access current, rich and sufficient literatures/materials directly from the net in a short time and less costly, but more effective and efficient in nature.

iv. A major limitation of computer is its inability to choose the best techniques of analyzing data, or statistical test to a given hypothesis, however, a fundamental knowledge of statistic would overcome this obstacle. Statistics "refers to the collection, presentation, analysis and utilization of numerical data to make inferences and reach decisions in the face of uncertainty in economics, business and other social and physical sciences" (Salvatore and Reagle, 2002), therefore, a good background of statistics would assist the researcher to understand the various techniques and the areas of their applications, this in turn will guide him while choosing the most suitable statistical techniques and tests to apply depending on the nature of the topic and research questions to be address or hypothesis to be tested.

v. High ethical standards must be observed in the research, failure to do so will undermined the credibility of the researcher, any author(s) cited in the work must be properly acknowledged by means of reference to avoid plagiarism, also a researcher must try as much as possible to be completely truthful and objective (Sanda, 2009). Other form of violating ethical standard is by way of incorporate the name of colleagues, relations and friends etc as co-author to research output without the person making any significant contributions in the research. Similarly, fabrication of data, duplicate submissions of manuscript for publication (through minor adjustment to title without changing the core contents) is other forms of violating ethical standard (Mikailu, 2009).

1. Steps in conducting research in social and management sciences

This part elaborates certain important stages to be followed in carrying out applied research in social science. The stages to be discussed below are, identification of research problem, literature review, determine specific research question (s) or hypothesis, designing research methodology, result presentation and analysis method (Result and discussion), reporting and evaluating research question (s) or hypothesis, Drawing conclusion and policy recommendations, referencing and abstract.

1. Identification of Research Problem or Topic

At a planning stage of writing a research paper, one needs to proposed research topic and chosen a topic of interest is not an easy task, topic selection can be done in various systematic ways and not haphazardly, it can arouse from a sense of curiosity, a hunch, everyday life experience or interest on a particular perceived problem identified from past researches or theory, that one feels needed to contribute to knowledge. However, it is important to determine whether it is a researchable topic? How much resources needed to conduct the research? What is the size and complexity of research? Is the topic relevant to the immediate environment and time? Etc.

Most researchers start with a general statement of the problem or rather the purpose for engaging in the study in their introduction, followed by stating the general and more often specific objective(s) of the research. Problem statement is the root cause of any research, without which there would be no need for a research, that is to say 'No problem, No research', its therefore important to begin with a good and clear statement of the problem. Researcher and research work are like a medical doctor (researcher) and a patient (research subject), a medical doctor begins by identifying a sign or symptom (s) from the body of his patient or through examining the patient's past medical records (identify gap from the literatures) to warrant him a chance to carry out further examination or a test, the doctor will then determine the kind of laboratory tests (methodology) that should be conducted.

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The result obtained from the test(s) would then be presented in form of graphs, images, pictures, etc, which would then be analyzed in the patient's card (result and discussion). Based on the findings from the reports, the doctor will make an appropriate prescription of drugs and other precautional steps to be observed by the patients, in order to overcome the situations and to avoid future occurrences (conclusion and recommendations),

2. Literature review

This is another critical aspect of the research, because it involves wide and extensive review of the work of others in a similar or related research problem or topic. The researcher must carefully comprehend what others have done, then is expected that he developed a constructive and justifiable criticism of their views with concrete basis. This will allow the researcher to identify flaws or holes from these previous studies or in building a theoretical framework, that will served as the justification for his own study. Not only that, reviewing literature assists the researcher to know what has already been explored related to his research problem, and what need to be done further to expand the scope of knowledge, it will also guide the researcher on how to design his own study, which data collection methods to be employed, which research questions to be established, what population to be used and how to lay the theoretical background of his study. One of the most effective ways to obtained previous researches to be reviewed is through searching educational journal articles by means of computer databases, textbooks, newspapers and magazines. A suggested way of extracting required information from the journal articles is through designed a form as below:

Form for extraction of notes for literature review		
1	Title	Write the full title of paper
2	Objective	One should use his own words to highlight the objectives of the paper he is reading.
3	Methodology	The methodology employed in the paper should also be stated in one's own words, which may consists of the type and source of data, the variables covered, popul ation and samples as well as the methods used in analyzing the data.
4	Findings	In this column the key findings from the paper are to be summarized and presented in one's own word
5	Policy implications	Here the major policy implications drawn from the paper should be properly and briefly stated in one's own word
6	Limitations	Show the main limitations of the paper you read with a concrete evidence or basis of doing so

Once such sampled of table is designed, the researcher can print as many copies as possible and then use one copy of this form to extract information from a single journal article. If there are twenty articles available to the researcher to review, the researcher can have twenty copies of the form for extraction.

3. Determine Specific Research Questions or Hypotheses

Most effective way to developed or identify a research questions is by reviewing literatures in a related research area or problem, that will allow researcher to identify gap (s) in the current literatures, and also create his own research question (s). The research question may be parallel to the hypothesis, and hypothesis is a tentative statement which can be subjected to empirical verification or test. Given that the general purpose of conducting research is to explore, describe, predict or explain the relationship between two or more variables usually inform of dependent and independent variables (IAR,2011), therefore, hypothesis concerns itself with this relationship between two or more variables in the research problem or particular area of interest to the researcher. Hypothesis is designed in form of null and alternative hypothesis, the aim is to make a correct decision by accepting or rejecting the null hypothesis based on observing the outcome of an experiment.

4. Designing Research Methodology

One common misconception with regards to methodology among many researchers is the use of method as a synonym to methodology. However, the former is only a part of the latter, the latter (methodology) comprises of (The case of empirical research):

(a) Research Design: Research design is categorized into qualitative, quantitative and mixed research design, a researcher must choose any one of them based on the nature of his research topic or the research questions he wishes to answer.

(i) Qualitative Research Design concerns with understanding human behavior and the reasons govern such behaviour; in this type of research a researcher may ask so many questions and attempts to answer them by collecting information in form of word, pictures, images, video etc, which are non-numerical or non-quantifiable in nature.

(ii) Quantitative Research on the other hand deals with a systematic empirical study of quantitative variables or phenomena and their relationship, under quantitative research, few questions are asked and numerical data are collected to analyze and establish the existing or causal relationship between two or more variables using statistical methods, it is however less expensive and consume little time compared with qualitative research. Despite their differences, the researcher may collect primary and secondary data in any of them.

(b) Type and source of data: The two major types of data are primary and secondary data. Primary data is a data collected specifically for a particular research or purpose; it is also called unrefined data. Primary data can be sourced in three ways; personal interview, designed questionnaire and personal observations. Secondary data is usually called refined data, because it already exists and documented and can be re-used for any research. Data obtained from the existing literatures, National Bureau of Statistics, Central Bank Publications such as statistical bulletin, Annual report and statement of accounts of various years, data from audited account of companies, sales records, data obtained from the World Bank, IMF are few sources of secondary data.

(c) Sample and Sampling Techniques: sometimes it may be impracticable or even impossible for a researcher to cover the whole population in the process of collecting information/data. Thus, a researcher may resort to use a small portion of the whole population known as sample, in order to draw inference about the population.

Therefore, the process of selecting a part of a group under study is known as sampling, that is to say, picking samples involves following a certain laid-down rule, process or scientific procedures also known as probability sampling methods. These probability sampling methods are of different types, however, the major ones are:

1. Simple random sample: Simple random sample implies selecting elements in a random way from the sample frame in which each element has an equal and independent chance of being selected.
2. Stratified sample: Stratified sample has to do with selecting the sample in a proportionate manner, especially if the population comprises of minority and majority groups, the aim is to ensure a greater representations among the heterogeneous population in which the population can be divided into homogenous subdivisions.
3. Systematic: Systematic sample entails ordering the elements in a list or numbers, and then the researcher can choose in an ordered manner. For example, researcher may select each third or fifth element in the population.
4. Cluster samples: Cluster sample is applicable where the population is numerically large and spread over a wide geographical area. Initially, clusters (groups of samples) are randomly selected, followed by the selection of samples. For example, university students in Nigeria can be conveniently ordered in clusters (universities), a sample of universities can be selected and then a sample of the students registered at the selected universities will then be chosen (Rossouw, 2003). It is important for a researcher to select his samples or respondents scientifically by using any of the above probability sampling techniques of selection.

(a) Model specification: The relationship between one variable and another can be specified in form of a model, usually such existing relationship between variables of interest are obtained from the theory or literature. Thus, a proper understanding of theory and related literatures would guide the researcher on the best and appropriate model to adapt for one's research. Model consists of one dependent variable on the left hand side and a set of independent or explanatory variable(s) on the right hand side. As an example Keynes (1936) postulated that the relation between income(y) and consumption (C) is linear and positive, that as household income increases, his consumption expenditure will also increase. Such relationship can be specified in the following form as:

C= f(Y)----------(I) Hence
Y= a + BX----------(ii)
Where Y= consumption, X= income

Next is to obtain the data and estimate the parameters (a and b) of the model, after estimating the parameters, the researcher can go ahead and evaluate the estimated parameters through the applications of t- test, f test, coefficient of determination (R-square) test, and other diagnostic tests. This will allow the researcher to predict a given change in income level on the level of consumption expenditure overtime.

a) **Method of data analysis:** One common mistake most researchers usually do is they would have a particular method beforehand, which they know best, then start looking for the research to applied it on, this is like putting the cart before the horse. In reality the nature of research problem or topic and research questions or hypothesis to be tested determine the method to be used in analyzing the data; this is where the basic knowledge of statistics comes in to assist in choosing the most suitable methods. Some methods commonly applied in researches are descriptive statistics, correlation test, chi-square test, regression analysis, granger causality test, one-way ANOVA, among others.

1. Result and Discussion

In applied research researcher collects data set through primary or secondary sources to test the stated hypothesis. Once the data set has been collected, the next is to present the result in form of tables, frequencies, graphs, charts, percentages, averages etc. To simplify understanding of the result to someone who is unfamiliar with statistical jargon, the researcher would then interpret or describe the results in words. For example if the data set was collected with the aid of administered questionnaires, the researcher is expected to present it in tables and percentages, then interpretation of what is contained in the table should come next. If the research involves hypothesis testing a researcher will adopt statistical procedures or methods (as explained above).

2. Reporting and evaluating research

The next task is for the researcher to report the result from the data analyzed in confirming or failing to reject the null hypothesis. The result would be further evaluated to establish the extent at which the study contradicts or supports the

earlier researches done in similar topic or problem, which will served as the contribution of the paper to the existing stock of knowledge.

3. **Drawing conclusions and recommendations**
The main research findings are to be explained in this section; researcher should explain whether the result matched with his expectations, and whether the research findings conform or contrast with findings from current literatures or theory. Also the researcher may explain the avenues for further research. Finally, policy recommendations should be stated based on findings from the study.

4. **Referencing:** This contains a full list of all authors or writers whose works have been cited in the main body of the paper. Failure to documents information that is not yours is an act of plagiarism. American Psychological Association (APA) style is the acceptable format for referencing, in referencing adequate care has to be taken. Thus, it is important to notes certain points as highlighted below:

i. List author (s) by "Last name, followed by first initials"
ii. Arrange the authors' surnames in alphabetical order
iii. Year of publication after first initial and in parenthesis
iv. Titles of books, journal and periodicals must always be italicizes
v. Articles should be in regular type without quotation marks
vi. Single line space irrespective of the spacing adopted in the main body of the paper
vii. Unique paragraphing is adopted in referencing which is called Hanging style, where the first line in each list protrude to the left and the rest of the line in same list begin six letters to the right of the first line.
viii. Researcher must ensure that all articles cited in the main body of the paper are reflected in the reference list.

5. **Abstract and keywords:** Once the paper is completed, the researcher would then write an abstract, which is suppose be at the beginning of the paper before introduction, the abstract is expected to be rich, brief, concise and direct, within a single paragraph of not more than 300 words. An abstract is supposed to reflect the whole contain of the paper, therefore a researcher can build his abstract by considering the following questions: What is the purpose and objective (s) of his research? Which research questions are to be addressed? Which methodology

used? What are the main findings and recommendations of his research? Immediately after the abstract is the keywords which should contained not more than 6 keywords.

6. Conclusion

Researcher should construct his research proposal in a clear term for his research to become acceptable, this involves detailed description of how the study was conducted which consists of the title of the paper and researcher's name, contact address and e-mail, statement of research problem(s) and objective(s)of the research, review of related literatures, research question/hypothesis. It must also include the formal description of procedures used to collect data/information and variables gathered, research design and the process of analyzing the result. In conclusion, this position paper can be found more relevant to researchers not only from social science disciplines such as economics, business etc, but to other researchers from art-related disciplines.

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Research Specimen

2.2.1 TITLE: INCOME AND CONSUMPTION BEHAVIOUR IN NIGERIA: AN APPLICATION OF KEYNESIAN APPROACH

Abstract

Keynes postulated that income is the major determinant of consumption against the view of the classical economics who maintained that income does not in any way determines consumption; in fact income is constant and not a variable at full employment level. The question is how applicable is the Keynesian model in the developing countries like Nigeria and what pattern of behavior does saving exhibits when income changes? Therefore the main objective of the paper is to empirically examine the nature of the relationship between income and consumption in Nigeria using Keynesian approach. Time series annual data covering the range of 1990-2004 was used and Keynesian theoretical regression model was adopted. The result shows that income is positive but a not significant factor in determines consumption, saving is found to bears a negative and insignificant relation with income. The study therefore recommended that government should enhance the non-oil revenue sources such as taxes, it should also promote prudent and effective spending at all levels to reduce wastage and misappropriation of public funds.

Keywords: Keynesian, Income, consumption, significance, regression

1. Introduction

"Men are disposed, as a rule and on the average to increase their consumption as their income increases, but not by as much as the increase in their income" (Keynes, J.M 1936, p 96).

Income and consumption relation from which the concept of consumption function was derived from was originally termed propensity to consume by Keynes, according to him the single and most important determinant of consumption expenditure is the level of disposable income. The beginning of the argument was traced back to the classical economists who maintained that the economy was always at full employment level of income, thus income is assumed to be constant and not variable. However, out of full employment level of income, the decision to consume or save depends on the level of interest rate that at higher interest rate people will save more of their income by consuming less of it and vice versa. Thus, according to the classical consumption bears a negative relation with interest rate whereas saving was considered to be a positive function of interest rate.

Keynes (1936) repudiated the classical argument by saying that people tend to spend more on consumption as their income increases, although not at equal proportion, so that a greater absolute amount would be earmarked to saving. Therefore, increases income invariably accompanied with rising consumption and saving and vice versa. Hence to Keynes income is positively related to consumption and saving.

This is a perceived problem from the theories (Keynesian and classical) developed in the developed countries for over six decades. The paper would adopt the Keynesian model to observe whether or not there is any significant relation between income and consumption in Nigeria. Therefore the research questions for this study are; Does income affects savings in Nigeria? How applicable is the Keynesian model to Nigeria context with regards to income-consumption behaviour?

The main objective of the paper is to empirically examine the nature and stability of the relation between income and consumption behavior in Nigeria using Keynesian model. The specific objective is to estimate saving-income relationship for the developing countries using Nigeria as a case study.
Thus the hypotheses of this study are as follows,
H_0: Income does not significantly affect consumption in Nigeria.
H_1: Income does significantly affect consumption in Nigeria
H_0: Income has no significant impact on saving
H_1: Income has a significant impact on saving

From the above introduction a clear statement of the problem is presented, and the problem was identified from the theories developed elsewhere. We are interesting in empirically proving whether the theory is consistence to the reality in Nigerian. Research questions were highlighted which arouse from the theory, furthermore, general and specific objectives as well as the hypotheses of this study were also stated.

Literature review
In this section we can start reviewing the work of others, in relation to income-consumption and saving relations. We can categories our literatures into at least five (5): Firstly, studies conducted in the developed economies such as UK, USA. Secondly, studies from the developing countries such as India, Pakistan, Thirdly, studies based in Asian countries such as China, Singapore, Japan, and Malaysia. Fourthly, reviewed those

studies from African countries such as Ghana, Uganda, Egypt, South Africa etc. Fifthly, review similar studies from within Nigeria. Specifically, the emphasis would be on the individual's objective, methodology, findings, policy implications and limitations. For example:

Jin and Chang-Zhi (2010) examined the relationship between actual income and consumption of rural residents in Hebei (China) using co-integration and granger causality test on a data ranged from 1983-2007. The result shows that there is long-term stable equilibrium relationship between the net income per capita and consumption expenditure per capita, granger test further indicated that actual income has significant impact on actual consumption. The study recommended that government in Hebei province can expand consumption through increasing the income of rural residents.

Methodology

This research paper is a quantitative research paper, the study employed annual time series data on government consumption expenditure and generated revenue as well as national savings in Nigeria from the period of 1990-2004. This period corresponded with the time when Nigeria government realized high income due to the rising oil price and before the economic meltdown. The data are sourced from National bureau of Statistic and Central Bank of Nigeria statistical bulletin.

Model specification

The Keynesian theoretical model of simple linear regression is adopted for this study, which stated that aggregate consumption is a function of aggregate income expressed as

$C = a + by$----------(1)

$Y = á_0 + á_1X + ì$----------(ii)

Where y=consumption, X=income, $á_0$ = intercept $á_1$ = slope/coefficient

The saving function is $y = â_0 + â_1X + ì$----------(iii)

Where y=saving, X=income, $â_0$ = intercept (constant), $â_1$ = coefficient

The data has to be converted to log-log function initially; we can then run the stationarity test (Augumented-Dickey Fuller {ADF} test) to ensure we do not end of obtaining a spurious result. Similarly we can apply t-test to test for the significance of individual parameter. The goodness of fit of the regression model can be measured with the aid of R^2, the f-test will estimate the significance or otherwise of the joint parameters included

in the model, Durbin-Watson test would be conducted to check the presence or absence of auto-correlation

Result and Discussion

Unit root test

Table 4.1 Unit root test result

Variable	**Level**		**First Difference**	
	With intercept	Trend and intercept	With intercept	Trend and intercept
LGCE	-1.786474	-2.116838	-3.011074*	-3.38867*
LGR	-0.815397	-2.290866	-2.776964*	-3.56835*
LNS	-1.471201	-2.784223	-3.437583**	-3.315367*

Source: Computation from the views 4.0. * and ** denoted 10 and 5 percent critical values. LGCE represent the log of Government consumption expenditure, LGR stands for the log of Government revenue and LNS is the log of National saving.

The unit root result from the table 4.1 above shows that all the variables of interest are non-stationary at level; however, they all became stationary at first difference under 10 percent critical values with the exception of LNS that is stationary at 5 percent critical level with intercept.

Regression result (first model)

$$D(LGCE)[Y] = -0.0041 + 0.02D(LGR,2)[X]$$
$$0.204 \quad 0.09$$
$$[-0.020] \quad [0.186]$$

$R^2 = 0.0031$, DW= 3.33, F=0.003, Pr= 0.86

The regression result obtained from the e-views shows that income is positively related to consumption; this in consistence with the Keynes' postulation, the point of difference is that although the income-consumption relationship is positive, but their relation is not significance as the t values (in parenthesis t=0.186)indicated the probability value to be very low. Similarly the R^2 value of 0.0031 is showing that the regression model is not the

best fit, in other word a variation in income (X) does not explain changes in consumption (Y). However Durbin-Watson statistics indicated that the error terms are not serially correlated, while the f-statistics further show that the coefficients are not jointly significance. Thus we can accept the null hypothesis which says income does not significantly affect consumption in Nigeria

Regression result (second model)

D (LNS) [y] = 0.0026 - 0.2493 D (LGCE) [X]

0.23 0.34

[0.011] [-0.733]

R^2 = 0.046, DW= 2.79, F=0.54, Pr= 0.48

The regression result above shows that saving is negatively related to income, that as income increased saving reduces, the result also indicated that the coefficient of income to saving is not significance even at 10 percent probability. R^2 value is low indicating that the variation in income has not account for a change in level of saving; again the f-statistics is also low meaning that the coefficients ($\hat{a}_0$ and $\hat{a}_1$) are jointly not significance. Thus, we can accept our null hypothesis which stated that change in income level has no significance impact on the level of saving in Nigeria. This finding also contradicted Keynesian statement who argued that change in income brings about a positive and significant change in saving.

Conclusion and Recommendations

The findings from the study contradicted the Keynesian theory; our a prior expectation is for the income level to bears a positive and significance relation with the level of consumption and savings as stated by the theory. However, in this study although we found income and consumption to be positively related but their relationship is not significance. Saving was also found to have a negative and insignificance relation with income.

These findings are not unconnected with the fact that we used a disaggregated data on consumption level (government consumption expenditure with the exception of private consumption expenditure), also we applied a simple linear regression model. If however, a multiple regression model would be employed along with the annual data on gross consumption expenditure and combination of primary and secondary data, definitely one may obtain a result different from the ones obtained above.

Based on this study we can recommended that government should enhance other revenue generating sources most especially non- oil revenue as a means increasing government revenue in Nigeria. Government should also promote prudent and effective public spending from all the three arms of government by means of fiscal responsibility act which in turn will reduce wastage and misappropriation of public fund in the country.

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2.3 Standards for writing research in management sciences

Introduction:

Research is a thorough, objective and systematic or scientific investigation of a given phenomenon in order to arrive at knowledge or new knowledge regarding the phenomenon (Uguonu and Anugwom 2006). This involves systematic collection of data, organization of the data presentation, analysis and interpretation of data in order to arrive at a decision. The following are features of a good research.

1 Precision
2 Empiricism
3 Objectivity
4 Scientific
5 Systematic

1. Precision

Research must be precise, unambiguous, unbiased, accurate and specific. It must address a specific problem, which parameter can be measured. This could be done within a specific time frame. Measurement involves a procedure of finding the size, extent, value, or degree of something or somebody i.e. Research objects (Eboh, 1998). Precision is a way of confirming values which enable the researcher to make categorizations and inferences on both the quality and quantity of variable.

2. Empiricism

Research must be empirical. Empiricism here means that findings and conclusions are made based on verified data. For example, empirical information is derived from research findings or reports of others who have done empirical research in the particular area of study. It helps to strengthen methodological capacity of the research.

3. Objectivity

Generally, research in social and management sciences is anchored in objective gathering of data on the basis of which interpretations and principles are made. In this sense, the research endeavor is a practical exercise to gather data to be used in the explanation of a given phenomenon or the revelation of unknown facts about a subject.

2.3 Guide to scientific research writing: EDUCATION

Introduction

Research is a search for knowledge or a systematic investigation to establish facts, to solve problem or to make contribution to knowledge. It uses the scientific method of investigation, hence, it is known as scientific research. There are two broad categories namely; applied and basic research. All researches conducted in education are applied while researches in pure sciences are basic. The primary purpose of applied research is to discover, interpret develop methods and system for the advancement of human knowledge (Adeleke, 2010). The following steps are general guides to all prospectus researchers in education known as research Procedure.

Research Procedure

1. Formulation of research topic
2. Background to the study
3. Research Questions/Hypothesis/Hypotheses
4. Conceptual/Operational definition of Terms
5. Review of related Literature
6. Conceptual /Theoretical framework
7. Methodology: method used in gathering of data, analysis of data which includes testing of the hypotheses stated using statistical tools.
8. Presentation of results, discussion, summary of findings, conclusion
9. Significance (Contribution to knowledge/policy implementation),
10. Recommendations
11. References

The following are steps for conducting an empirical research in education.

Identification of a problem/research interest area: At this initial stage, the researcher identifies a problem area, or interest, variables involved, (independent or manipulated variable and dependent or measured variable) and then fashions out a research topic.

Formation of topic

The Title/Topics which must emanate from a particular problem identified by the researcher must be of interest. It must reflect the major variables in the study. The researcher must, at doing this, take cognizance of the availability and accessibility of needed materials. He consults the library to review available literature in the area of research interest. This will get him arm for the intended study.

Abstract

This is a brief summary of the study (Maximum of 200words). For empirical study it includes the problem of the study, population, and sample and sampling technique, number of hypotheses tested or research questions raised must be mentioned. The instrument to be used for data collection and its validation procedure, statistical tool for analysis, results and recommendations are clearly stated. Note that opinion paper only includes the problem, the body and conclusion/suggestions. Let's see this example of an abstract in education research,

Title of paper: Exploring the impact of locus of control and self-efficacy in physics performance

Abstract

The study investigated the effects of locus of control and self-efficacy on performance of senior secondary school students in physics. It is based on attribution theory .The study provided answers to four research questions. A total of three hundred and fifty six physics students of intact classes were sampled from six public secondary schools in Yaba local Government of Lagos state Nigeria. Data were collected from primary and secondary sources using students' locus of control and self- efficacy questionnaire (primary source). Students' performance in physics (continuous assessment and examination scores) were obtained from the sampled schools (secondary source).The instrument was validated and its Cronbach alpha value r=0.93 (locus of control scale) and r= 0.76 (self-efficacy scale). The data collected was analysed using t test, mean, standard deviation, analysis of variance (ANOVA) and regression. The result showed a significant interaction effects between locus of control, age and gender. Also, a significant relationship existed between locus of control and self-efficacy as well as between locus of control and performance in physics. Locus of control was found to be the most potent predictor of

achievement. The results were discussed and recommendations as well as policy implications were highlighted

Key words: Locus of control, self- efficacy, physics.
Key words: Minimum of 3 words and Maximum of 5 words

Background to the Study/Introduction

This is otherwise known as introduction, it emphasized the importance of the study, justifies the need for the study. It reviews few existing literature relevant to the study taking cognizance of all variable (independent, moderators and dependent variables) which must be clearly defined and justification stated for their selection or inclusion in the study. Gaps in literature are also identified and how the study will fill such gap is well spelt out. Provision for improvement is also made available, that is what the study seeks to achieve at the end.

Statement of the Problem

Here, the problem of the study is clearly stated in a concise form. The problem must be visible to the readers and must show how the proposed research can provide solution to the problem.

E.g. *Research evidence shows that student's performance in physics is generally poor.However, researchers have identified numerous factors such as teacher's students, environment, government, etc. as causes of such menace. This study therefore investigated the impact of teacher factors on achievement of students in physics.*

Objectives of the Study

This is in line with the statement of the problem. It must be clear, precise and concise.
Examples:

1. *To find out if locus of control has a significant effect on performance of students in physics.*
2. *To find out if self- efficacy has a significant effect on performance of students in physics.*
3. *To find out if there is any significant interaction effects existed among locus of control, age and gender on students' performance in physics.*
4. *To find out if there is any significant relationship among locus of control, age and gender on students' performance in physics.*

Research Questions and Hypotheses

A researcher may decide to use research questions or hypotheses or both. The questions and hypotheses must be clearly stated and must be in line with the objectives of the study. The hypotheses must be stated in either null or alternative form and the probability level of testing must be indicated, usually it is at .05 and is two tailed in educational research.

Example of research questions,

1. *Is there any significant effect of locus of control on students' performance in physics?*
2. *Is there any significant effect of self- efficacy on students' performance in physics?*
3. *Are there any significant interaction effects of locus of control, age and gender on students' performance in physics?*
4. *Is there any significant relationship among locus of control, self -efficacy, age and gender on students' performance in physics?*

Note: You would notice that the research objectives gave rise to the research questions, and this would be the same with the hypotheses.

Theoretical framework

The theory that supports the study is clearly stated and explained. Using the title stated above, let's consider a sample theoretical explanation to the study,

This study is based on the attribution theory of Heider (1958), Jones, Kannouse, Kelley, Nisbett, Valins, and Weiner, Eds (1972) and Weiner (1974) and (1986). This theory is based on how individual person interprets events and how these interpretations relate to individual thinking and behaviour. The theory assumes that people try to determine why people do what they do, thereby attributing one or more causes to that behaviour. Heider (1958) posited that one can make two types of attribution namely internal and external. According to the researcher, internal attribution is the inference that a person behave in certain way because of something relating to that person such as attitude, character or personality. This is related to internal locus of control or high self- efficacy, when people attribute causes or consequences of events and action to one's ability and efforts.

On the other hand external attribution according to Heider is associated with reasons behind peoples' action and behaviour. This is related to external locus of control; when people blame others for what happen to them, believing that they have no control over the action or event. They

believe that failure is due to bad luck and not their ability, they doubt their ability and that success is due togood luck or who you know or to other factor outside their own control, and does not increase their confidence and pride. People attribution is driven by emotions and motivations, blaming other people and avoiding personal recrimination. They also make attribution to defend what they perceived as attack and pointing to injustice in an unfair world as well as apportioning blames to victims and seek to distance self from thought of suffering similar plight. People who have internal attributions are high achievers and possess high self-efficacy; they believe that success is as a result of hard work, high ability and efforts and they have confidence in themselves and so success builds their pride and confidence

Methodology

This includes the research design, population and samples as well as the sampling technique, instrument; type must be mentioned e.g achievement test, questionnaire interviewed depending on the type of study. The instrument must be well described, is it an adapted or adopted form? If yes, from which source? Or constructed by researcher? State clearly the format adopted in constructing and the number of items in each section and sub section of each instrument must is mentioned. The validation procedure is also necessary; content, face validation as well as empirical validation information are needed. Statistical tool for such validation process, method of administration of the instrument and the type of statistical tool of analyzing the data as well as the presentation of results which must follow the sequence of hypotheses or research questions are also necessary.

Example of a Research Methodology

The study is an expose-facto form of survey research design. The population consisted of all senior secondary physics students from Yaba local Government area of Lagos state from which a sample of three hundred and fifty six physics students were drawn from six randomly selected secondary schools in the local Government. Two research instruments obtained from primary and secondary sources; a questionnaire and scores of students in continuous assessment test and second term examination obtained from the sampled schools respectively were used in collecting data.

The questionnaire is called locus of control and self- efficacy (LOCSE) Scale It consisted of two sections A and B. Section A dealt with demographic information and section B consisted of 33 items the first 23 items addresses questions on students general locus of control of 2 points format of Agree (A) and Disagree (D) while the remaining 10 items addresses questions on students self- efficacy (SE) of 4 points format of Not at all (N), Hardly true(H), Moderately true (M) and Exactly true(E). The LOC Scale was adapted from Rotter (1990) and the SE Scale was adapted from Schwarzer and Jerusalem (1995).The LOCSE Scale was subjected to both face and content validation and the empirical validity was equally ensured through a pilot test in a neutral school and reliability coefficient value (r) was calculated as r=0.93 for LOC and r= 0.76 for SE using Chronbach alpha

Administration and Scoring

The questionnaire items were administered to the participants in their various schools and their respective scores in physics which is a measure of their performance were collected from the respective physics teachers. The items were scored as follows: for LOC a score of 1point goes to Agree and a score of 0 point goes to Disagree. This was used to categorize students into internal and external locus of control. A score of 13 and above=external and a score of below 13 =internal. For SE, Not at all=1point. Hardly true=2points. Moderately true=3points and exactly true=4points.This was used to classify students into high and low self-efficacy. A score of 25points and above was classified as high and a score of below 25 points is classified as low self-efficacy

Data presentation, results and discussion of findings

Finally the data analyzed are presented and the results obtained are discussed. The policy implications for each finding is highlighted and discussed, and then the conclusion and recommendations are made. Note that from methodology to presentation of results are compulsory for empirical study. But for non-empirical paper such as opinion paper there is no need for such but there is the need for suggestions instead of recommendations

Note: at the end of each *table or figure*, there is a brief explanation base on the result presented in the table. This helps the reader to understand and appreciate the values and results as presented in the table. Let's see an example below,

Results

Research Question 1. Is there any significant effect of locus of control on students' performance in physics?

Table 1: t - test for Locus of control and performance in physics

Level LOC	*N*	*Mean*	*St.Deviation*	*t*	*Df*	*Sig*
PPhy External	*289*	*66.8685*	*10.14051*	*-1.207*	*354*	*.228*
Internal	*67*	*68.5075*	*9.46344*			
Total	*356*					

Table 1 show there is no significant effect of Locus of control on students' performance in physics. Nevertheless, students with internal locus of control have higher mean score in physics (68.5075).Hence; they performed well than those who have external locus of control (66.8685).

Research Question 2: Is there any significant effect of self- efficacy on students' performance in physics?

Table 2: t - test of Self- efficacy on students' performance in physics

Level SE	*N*	*Mean*	*St Deviation*	*t*	*Df*	*Sig*
PPhy High	*226*	*67.7832*	*9.32532*	*1.507*	*354*	*.133*
Low	*130*	*66.1231*	*11.09439*			
Total	*356*					

Table 2 shows that there is no significant effect of self- efficacy on performance of students in physics. Students who have high self- efficacy performed better (67.7832) than those with low self-efficacy (66.1231).

Research Question 3: Are there any significant interaction effects of locus of control, age and gender on students' performance in physics?

Table 3: ANOVA table of Performance of students in physics, Self-efficacy, age and sex

Tests of Between-Subjects Effects

Dependent Variable: PPHY

Source	*Type III Sum of Squares*	*df*	*Mean Square*	*F*	*Sig.*
Corrected Model	*535.054[a]*	*7*	*76.436*	*.736*	*.641*
Intercept	*686206.255*	*1*	*686206.255*	*6609.404*	*.000*
LEVELLOC	*100.045*	*1*	*100.045*	*.964*	*.327*
SEX	*9.097*	*1*	*9.097*	*.088*	*.767*
AGE	*6.987*	*1*	*6.987*	*.067*	*.795*
*LEVELLOC * SEX*	*234.330*	*1*	*234.330*	*2.257*	*.134*
*LEVELLOC * AGE*	*1.228*	*1*	*1.228*	*.012*	*.913*
*SEX * AGE*	*4.108*	*1*	*4.108*	*.040*	*.842*
*LEVELLOC * SEX * AGE*	*20.543*	*1*	*20.543*	*.198*	*.003*
Error	*34572.963*	*333*	*103.823*		
Total	*1569343.000*	*341*			
Corrected Total	*35108.018*	*340*			

a. R Squared = .015 (Adjusted R Squared = -.005)

Table 3 shows that there is a significant interaction effect of locus of control, age and gender on students' performance in physics. These variables accounted for 1.5% to students' performance; this implies that other variable not investigated in this study will be responsible for the remaining 98.5% .Graphs of the interaction effect is presented in figures 1 and 2

Fig 1: Interaction effects of Locus of control, Age and Gender on performance in physics below 15years.

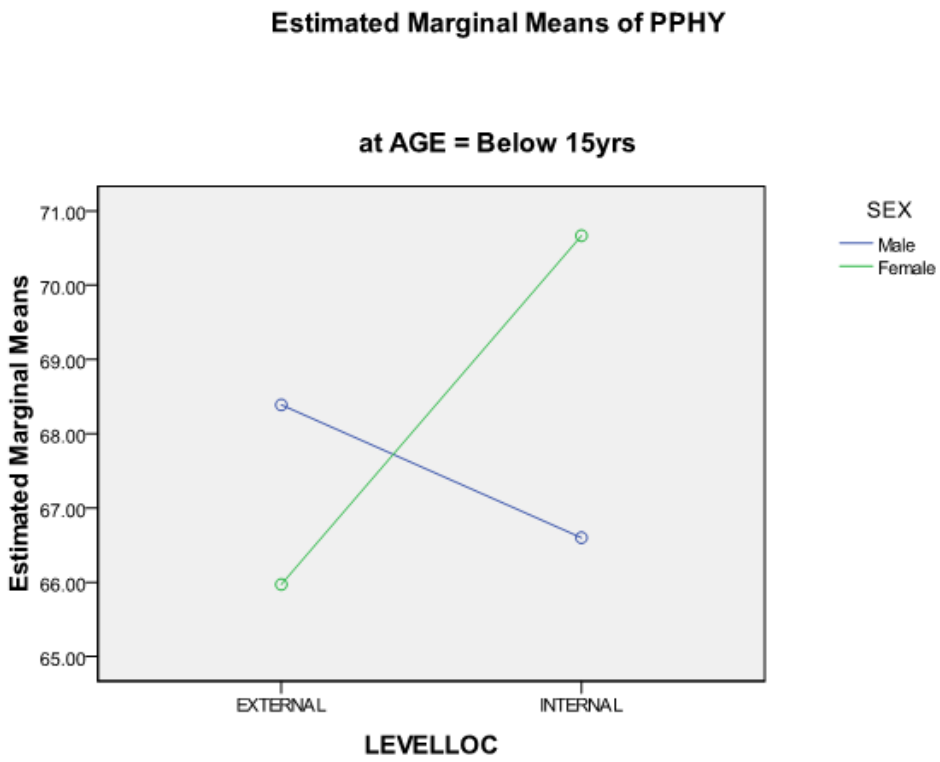

Fig 1 shows that female students who have internal locus of control performed better than male students who are internal. Also male students who are external performed better than female students who are external.

Fig 2: interaction effect of Age, Gender, LOC and performance of students in physics above age 15years.

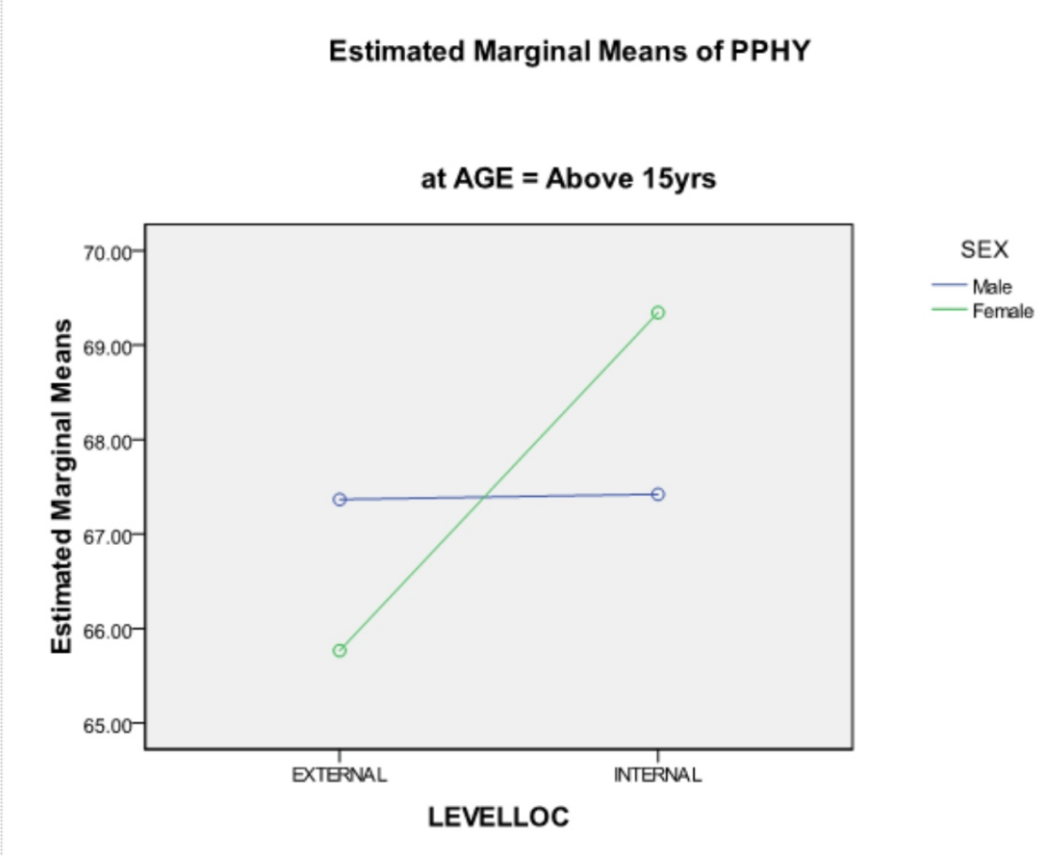

Fig 2 show that female students who have internal locus of control performed better than male students who are internal. Also male students who are external performed better than female students who are external.

Research Question 4: Is there any significant relationship among locus of control, self-efficacy, age and gender on students' performance in physics?

Table 4: Mean, standard deviation, and intercorrelations among the predictors and performance in physics for total sample (n=356)

	Variables				
	1	*2*	*3*	*4*	*5*
1. Performance	*1.00*				
2. Locus of Control	*.073*	*1.00*			
3. Self-efficacy	*-.072*	*.154**	*1.00*		
4. Gender	*-.045*	*.054*	*.016*	*1.00*	
5. Age	*-.018*	*.007*	*.123**	*.056*	*1.00*
Mean	*67.08*	*1.19*	*1.37*	*1.51*	*1.75*
SD	*10.16*	*.50*	*.48*	*.50*	*.43*

**p<.05*

Table 4 shows that that there is a significant relationship between self -efficacy and locus of control (r=0.15, p<0.05), and also, there is a significant relationship between self-efficacy and age (r=0.12, p<0.05).

Table 5: Summary of Regression results
R=.142, R^2=.020, Adjusted R^2=.009

ANOVA[b]

Model		*Sum of Squares*	*Df*	*Mean Square*	*F*	*Sig.*
1	*Regression*	*708.223*	*4*	*177.056*	*1.729*	*.143[a]*
	Residual	*34399.794*	*336*	*102.380*		
	Total	*35108.018*	*340*			

a. Predictors: (Constant), TOTALSE, SEX, AGE, TOTALLOC

b. Dependent Variable: PPHY

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	75.770	4.873		15.547	.000
	Gender	-1.170	1.103	-.058	-1.061	.290
	AGE	-.300	1.277	-.013	-.235	.814
	TOTALLOC	-.480	.194	-.136	-2.473	.014
	TOTALSE	.032	.105	.017	.305	.761

Table 5 shows that gender made a contribution of .058, ages contributed .013, LOC contributed .136 and SE contributed .017. Hence, LOC made a significant contribution; meaning it is the most potent predictor of students' performance among the entire variables that were investigated. Jointly the variables accounted for a total of 2% contribution to performance of students in physics.

Regression equation, Performance in physics $_{predicted}$ *= 75.770-.136locusof control+.017self-efficacy-0.058gender-0.013age.*

Discussion

The results of this study showed there is no significant effect of locus of control on performance of students in physics. This finding is at variance with the findings of by Awofala et al (2012) who reported a significant effect of locus of control of achievement of students in physics and mathematics. Although students who has internal locus of control performed well than those who have external locus of control. This result is in line with the findings of Whyte (1970) and (1980) who reported that students with more internal locus of control performed academically better than those with external locus of control. The outstanding performance of students who have internal locus of control may be due to the fact that people with internal locus of control

believe they are responsible to whatever happen to them, hence, they work very hard to achieve success (Rotter,1966; Awofala et al, 2012).

They are generally inquisitive; psychological healthier and more successful in life, they also believe that their power controls their destiny. Also, the result shows no significant effect of self-efficacy on performance of students in physics. This result contradicted the result of Akinsola and Awofala (2009) who reported a significant difference in the mathematics word problem achievement and self-efficacy beliefs of personalized and non-personalized groups. Students who have high self-efficacy performed better than those with low self-efficacy. The result also shows female students who have internal locus of control performed better than male students who are internal. Also male students who are external performed better than female students who are external. A similar trend is obtained at age 15years below and above.

On a general analysis female internal exhibited an outstanding performance, this is at variance with the assumptions of Rotter (1990) who asserted that men are internal while women are external and that of Schultz and Schultz (2005) who reported that man may have internal locus of control for questions related to academic achievement. The non-significant difference observed between locus of control and performance, and non-significant effects of self-efficacy on performance in physics may be due to the fact that students were examined at different times and were not made to answer the same questions. Or probably because the questions which measured students' performance does not pass through validation procedure (teachers constructed questions) accounted for such trend observed.

The findings reported a significant relationship between self-efficacy and locus of control ($r=0.15$, $p<0.05$), this result contradicted the result of Norwich (1987) who found no significant relationship between self-efficacy and mathematics achievement with a small and also found no significant value of the regression analysis. Also, result of this study showed a significant relationship between self-efficacy and age ($r=0.12$, $p<0.05$). The study also found that locus of control is the most potent predictor of performance in physics (table 5). The result in table 5 indicated that 2% of the variance in physics performance was accounted for by the predictors (variables) when taken together .The relationship between locus of control, self-efficacy and age implies that these variables should be monitored for improved performance in physics.

Summary of Findings

1. *There was no significant difference between internal and external locus of control on students' performance in physics, though internal performed better than external.*
2. *There was no significant effect of self- efficacy on performance of students, although high self- efficacy students performed better than low self- efficacy students.*
3. *Students with internal locus of control performed better than those with external locus of control. Female students of internal locus of control performed best than male with internal and external locus of control.*
4. *There was a significant relationship between self- efficacy and locus of control. Also, there was a significant relationship between self- efficacy and age. Locus of control was the most potent variable out of the variables investigated that predicted performance of students in physics.*

Conclusion

At conclusion, the researcher presents a concise summary of the final position of the study. It's not just merely a summary of points or a re-statement but a synthesis of key points. Let's give a brief conclusion to the study above,

The study has found that a significant relationship existed between locus of control and self-efficacy. Also, between self-efficacy and age, there was a significant interaction effect of locus of control, age and gender. These three variables mutually influenced the performance of students in physics to produce a joint effect.

Recommendation

This is often presented in two form; first as a policy implication and secondly as a suggestion for further study. Also, an example will guide us,

Recommendation: Implication for Education Policy Makers

Practicing physics teacher should adopt practical classroom strategies that will strengthen students' internal locus of control as well as developing high self -efficacy towards the subject physics, in particular and science in general. This is because internal locus of control is an essential factor for students to have a thorough understanding of science. Internals are more likely to develop an intrinsic orientation in which participation in the science task presents or

because participation exhibits feeling of competence, mastery, control, and self-determination. Also, because students with high self-efficacy tend to develop greater confidence in their academic capabilities and this confidence extends equally across the learning of physics concepts for improved performance. Also, teachers' made questions should pass through some validation procedure.

Suggestion for Further Studies

This study can be replicated in other state of the Federation, measuring the effects of academic locus of control self-efficacy and other variables such as study habit and anxiety on students' achievement in physics where the students will be under the same examination conditions.

References

Unless, otherwise stated, referencing researcher papers in Education should carry the APA format.

Acknowledgements

The researcher(s) may wishes to acknowledge the efforts of the people who assisted in the success of the study based on their various roles.


Section 3

WRITING A RESEARCH PROPOSAL, GRANT AND FIELD REPORT

3.1 Writing a Research Proposal
3.1.1 Specimen for Proposal Writing
3.2 Writing a Good Grant Proposal
3.3 Writing a Field Report

3.1 Writing a Research Proposal

The goal of a research proposal is to present and justify a research idea you have and to present the practical ways in which you think this research should be conducted. The forms and procedures for such research are defined by the field of study, so guidelines for research proposals are generally more exacting and less formal than a project proposal. Research proposals contain extensive literature reviews and must provide persuasive evidence that there is a need for the research study being proposed. In addition to providing rationale for the proposed research, a proposal describes detailed methodology for conducting the research consistent with requirements of the professional or academic field and a statement on anticipated outcomes and/or benefits derived from the study.

How to Approach Writing a Research Proposal

The under listed form some of the basic reasons for writing a research proposal,

1. Develop your skills in thinking about and designing a comprehensive research study.
2. Help learn how to conduct a comprehensive review of the literature to ensure a research problem has not already been answered [or you may determine the problem has been answered ineffectively] and, in so doing, become familiar with scholarship related to your topic.
3. Improve your general research and writing skills.
4. Practice identifying what logical steps must be taken to accomplish one's research goals.

5. Nurture a sense of inquisitiveness within yourself and to help see yourself as an active participant in the process of doing scholarly research.

A proposal should contain all the key elements involved in designing a complete research study, with sufficient information that allows readers to assess the validity and usefulness of your proposed study. The only elements missing from a research proposal are the results of the study and your analysis of those results. Finally, an effective proposal is judged on the quality of your writing. It is, therefore, important that your writing is coherent, clear, and compelling.

Regardless of the research problem you are investigating and the methodology you choose, all research proposals must address the following questions:

1. **What do you plan to accomplish?** Be clear and succinct in defining the research problem and what it is you are proposing to research.
2. **Why do you want to do it?** In addition to detailing your research design, you also must conduct a thorough review of the literature and provide convincing evidence that it is a topic worthy of study. Be sure to answer the "So what? question.
3. **How are you going to do it?** Be sure that what you propose is doable. If you're having trouble formulating a research problem to propose investigating.

Common Mistakes to Avoid

1. Failure to be concise; being "all over the map" without a clear sense of purpose.
2. Failure to cite landmark works in your literature review.
3. Failure to delimit the contextual boundaries of your research [e.g., time, place, people, etc.].
4. Failure to develop a coherent and persuasive argument for the proposed research.
5. Failure to stay focused on the research question; going off on unrelated tangents.
6. Sloppy or imprecise writing. Poor grammar.
7. Too much detail on minor issues, but not enough detail on major issues.

A good place to begin is to ask yourself a series of questions:

1. What do I want to study, and why?
2. How is it significant within the subject areas covered in my class?
3. What problems will it help solve?
4. How does it build upon [and hopefully go beyond] research already conducted on my topic?
5. What exactly should I plan to do, and can I get it done in the time available?

In the end, your research proposal should document your knowledge of the topic and highlight enthusiasm for conducting the study. Approach it with the intention of leaving your readers feeling like--"Wow, that's an exciting idea and I can't wait to see how it turns out!"

In general your proposal should include the following sections:

I. Introduction

In the real world of higher education, a research proposal is most often written by scholars seeking grant funding for a research project or it's the first step in getting approval to write your doctoral dissertation. Even if this is just a course assignment, treat your introduction as the initial pitch of an idea. After reading the introduction, your readers should not only have an understanding of what you want to do, but they should also be able to sense your passion for the topic and be excited about its possible outcomes.

Think about your introduction as a narrative written in one to three paragraphs that succinctly answers the following four questions:

1. What is the central research problem?
2. What is the topic of study related to that problem?
3. What methods should be used to analyze the research problem?
4. Why is this important research, and why should someone reading the proposal care about the outcomes from the study?

II. Background and Significance

This section can be melded into your introduction or you can create a separate section to help with the organization and flow of your proposal. This is where you explain the context of your project and outline why it's important. Approach writing this section with the thought that you can't assume your readers will know as much about the research problem as you do. Note that this section is not an essay going over everything you have learned about the research problem; instead, you must choose what is relevant to help explain your goals for the study.

To that end, while there are no hard and fast rules, you should attempt to deal with some or all of the following:

1. State the research problem and give a more detailed explanation about the purpose of the study than what you stated in the introduction.
2. Present the rationale of your proposed study and clearly indicate why it is worth doing. Answer the "So what? question [i.e., why should anyone care].
3. Describe the major issues or problems to be addressed by your research.
4. Explain how you plan to go about conducting your research. Clearly identify the key sources you intend to use and explain how they will contribute to the analysis of your topic.
5. Set the boundaries of your proposed research in order to provide a clear focus.
6. Provide definitions of key concepts or terms, if necessary.

III. Literature Review

Connected to the background and significance of your study is a more deliberate review and synthesis of prior studies related to the research problem under investigation. The purpose here is to place your project within the larger whole of what is currently being explored, while demonstrating to your readers that your work is original and innovative. Think about what questions other researchers have asked, what methods they've used, and what is your understanding of their findings. Assess what you believe is still missing, and state how previous research has failed to examine the issue that your study addresses.

Since a literature review is information dense, it is crucial that this section is intelligently structured to enable a reader to grasp the key arguments underpinning your study in relation to that of other researchers. A good strategy is to break the literature into "conceptual categories" [themes] rather than systematically describing materials one at a time.

To help frame your proposal's literature review, here are the "five C's" of writing a literature review:

1. **Cite**: keep the primary focus on the literature pertinent to your research problem.
2. **Compare** the various arguments, theories, methodologies, and findings expressed in the literature: what do the authors agree on? Who applies similar approaches to analyzing the research problem?
3. **Contrast** the various arguments, themes, methodologies, approaches and controversies expressed in the literature: what are the major areas of disagreement, controversy, or debate?
4. **Critique** the literature: Which arguments are more persuasive, and why? Which approaches, findings, methodologies seem most reliable, valid, or appropriate, and why? Pay attention to the verbs you use to describe what an author says/does [e.g., asserts, demonstrates, etc.].
5. **Connect** the literature to your own area of research and investigation: how does your own work draw upon, depart from, or synthesize what has been said in the literature?

IV. Research Design and Methods

This section must be well-written and logically organized because you are not actually doing the research. As a consequence, the reader will never have a study outcome from which to evaluate whether your methodological choices were the correct ones. The objective here is to ensure that the reader is convinced that your overall research design and methods of analysis will correctly address the research problem. Your design and methods should be absolutely and unmistakably tied to the specific aims of your study.

Describe the overall research design by building upon and drawing examples from your

review of the literature. Be specific about the methodological approaches you plan to undertake to collect information, about the techniques you would use to analyze it, and about the tests of external validity to which you commit yourself [i.e., the trustworthiness by which you can generalize from your study to other people, places or times].

When describing the methods you will use, be sure to cover these issues:

1. Specify the research operations you will undertake and the way you will interpret the results of these operations in relation to your research problem. Don't just describe what you intend to achieve from applying the methods you choose, but state how you will spend your time while doing it.
2. Keep in mind that a methodology is not just a list of research tasks; it is an argument as to why these tasks add up to the best way to investigate the research problem. This is an important point because the mere listing of tasks to perform does not demonstrate that they add up to the best feasible approach.
3. Be sure to anticipate and acknowledge any potential barriers and pitfalls in carrying out your research design and explain how you plan to get around them.

V. Preliminary Suppositions and Implications

Just because you don't have to actually conduct the study and analyze the results, it doesn't mean that you can skip talking about the process and potential implications. The purpose of this section is to argue how and in what ways you believe your research will refine, revise, or extend existing knowledge in the subject area under investigation. Depending on the aims and objectives of your study, describe how the anticipated results of your study will impact future scholarly research, theory, practice, forms of interventions, or policy. Note that such discussions may have either substantive [a potential new policy], theoretical [a potential new understanding], or methodological [a potential new way of analyzing] significance.

When thinking about the potential implications of your study, ask the following questions:

1. What might the results mean in regards to the theoretical framework that frames the study?
2. What suggestions for subsequent research could arise from the potential outcomes of the study?
3. What will the results mean to practitioners in the "real world"?
4. Will the results influence programs, methods, and/or forms of intervention?
5. How might the results contribute to the solution of social, economic, or other types of problems?
6. Will the results influence policy decisions?
7. In what way do individuals or groups benefit should your study be pursued?
8. What will be improved or changed as a result of the proposed research?
9. How will the results of the study be implemented, and what innovations will come about?

VI. Conclusion

The conclusion reiterates the importance or significance of your proposal and provides a brief recap of the entire study. This section should be only one or two paragraphs long, emphasizing why your research study is unique, why it advances knowledge, and why the research problem is worth investigating.

Someone reading this section should come away with an understanding of:

1. Why the study was done,
2. The specific purpose of the study and the research questions it attempted to answer,
3. The research design and methods used,
4. The potential implications emerging from your proposed study of the research problem, and

5. A sense of how your study fits within the broader scholarship about the research problem.

VII. Citations

As with any scholarly research paper, you must cite the sources you used in composing your proposal. In a standard research proposal, this section can take two forms, so consult with your professor about which one is preferred.

1. **References** -- lists only the literature that you actually used or cited in your proposal.
2. **Bibliography** -- lists everything you used or cited in your proposal with additional citations of any key sources relevant to understanding the research problem.

In either case, this section should testify to the fact that you did enough preparatory work to make sure the project will complement and not duplicate the efforts of other researchers. Start a new page and use the heading "References" or "Bibliography" at the top of the page. Cited works should always use a standard format that follows the writing style advised by the discipline of your course [i.e., education=APA; history=Chicago, etc]. This section normally does not count towards the total length of your proposal.

3.1.1 SPECIMEN FOR PROPOSAL WRITING

1. Formulating a Research Question

1.1. Identify a Broad Area of Interest. This can be done through literature searches; discussions with colleagues, policy makers and the community, then ask yourself a series of questions:

– Is this idea stimulating and important enough to me so that I would want to spend considerable time thinking and reading?

– Does this idea have long-term potential to be expanded and contribute to my career?

– What is the focus of my department, institution, and profession, and how do their goals fit with my topic of interest?

– Does the idea reflect contemporary thinking in the field?

– Will the idea contribute by contesting contemporary thinking in the field?

– Do I know the field and its literature well?

– What are the important research questions in this field?

– What areas need further exploration?

– Could my study fill a gap or lead to greater understanding?

– Has a great deal of research already been conducted in this topic area?

– Has this or a similar study been done before? If so, is there room for improvement?

– Is the timing right for this question to be answered?

– Which funding agencies would be interested in funding this study?

– If you are proposing a service program, are the target community and policy makers interested in such a programme?

– Most importantly, will my study have a significant impact on the field?

1.2. Evaluate your resources by asking yourself these questions:

– What is my level of expertise, interest and comfort with this topic?

– Do I have the necessary skills or knowledge to carry out my idea?

– Do I have the time to complete the tasks that will be required?

– Am I willing and able to commit the time to a project?

– Do I have the resources needed to complete the project?

– Are others available to serve as collaborators to complement my level of expertise?

1.3. Write an abstract or concept paper that reflects your current thinking. This will help you narrow your topic and force you to describe your idea systematically. This abstract can also be used to obtain feedback from colleagues and potential funding agencies.

1.4. Discuss your ideas and establish whether the idea fits the priorities of the funding agency you are targeting.

1.5. Begin to reshape your ideas based on these conversations and a further review of the literature.

1.6. Finally, a good research question should be narrow enough to address specific issues but not so narrow that it can be addressed with a yes or no answer or the gathering of a few statistics.

2. Formulating a Hypothesis

Hypotheses are more specific predictions about the nature and direction of the relationship between two or more variables. A well-thought-out and focused research question leads directly into hypotheses.

Ideally, hypotheses should:

– Give insight into a research question.

– Be testable and measurable by the proposed research methodology.

– Spring logically from the experience of the researchers.

Make sure that you:

– Provide a rationale for your hypotheses explaining how they were derived and why they are strong?

– Provide alternative possibilities for the hypotheses that could be tested and explain why you choose the ones you did over others?

3. Aims and Objectives

An aim is a broad statement of desired outcomes while objectives are the steps you are going to take to test your hypotheses or answer your research question. Make sure that each hypothesis is matched with a specific objective. Your objectives must be measurable, highly focused and feasible, given the time and money you are requesting in the grant. Be realistic about what you can accomplish in the duration of the grant and within the budget requested.

4. Project Team

The goal of this section is to demonstrate the experience and competence of the applicant or project team to perform the tasks of the proposed project. Use this section to show reviewers that, based on your past successes with similar research; the project team is capable of carrying out this work. If you have limited experience, complement your experience by teaming-up with a collaborator to enhance your expertise in certain areas.

Ask yourself the following questions when deciding on a project team:

– How willing am I to work with others to shape, develop, and implement this idea?

– Am I willing to be flexible and see different sides of a question?

– Am I willing to let go of or modify an important idea to fit the interests of others?

Roles in a traditional Research Project Structure

Role Examples of Responsibilities

1. Principal Investigator - Oversees entire project, especially its scientific integrity
2. Co-investigator - Contributes to a discrete area of expertise
3. Project co-ordinate/director - Day-to-day management of the study
4. Interviewers - Assessment of participants
5. Interventionist - Implements experimental protocol in intervention studies
6. Data coder/cleaner - Coding, data capture, checking for accuracy of data entry
7. Data base manager - Establishes and maintains data files
8. Statistician - Assists in determining statistical analysis

Researchers, especially new researchers, should not work alone. The principal investigator (PI) is the person responsible for directing the study or Project, and is accountable to the funding Institute for proper conduct of the study.

What makes a good PI? These are some general criteria:

– Recent publications in peer-reviewed journals related to the proposed research area

– Prior supervision of research team members

– Prior position as a key member of a research team

– Receipt of prior funding for grants/contracts in the proposed research area

– Preferably a doctoral degree but sometimes a Masters degree with proven research experience in the proposed area.

Collaborators are generally researchers in your field or a related discipline who can complement your skills and expertise.
Here are some suggestions of ways in which to find possible collaborators:

– **Network yourself!** Start attending major conferences in your field.

– **Join professional organisations** in your field.

– **Contact other researchers** in your organisation, nationally or internationally.

When deciding on a collaborator it is advisable to choose people:

– who can **add to your expertise**, not copy it

– who are **not too busy** to help you when you need help

– who are willing to agree to disagree

– you get along with and will enjoy working with

Collaborators can also serve as mentors
These are some of the benefits of having a mentor.

– Having access to experienced researchers, especially in your field.

– Receiving assistance with developing and exploring research ideas, hypotheses, etc.

– The sharing of personal and professional experiences while writing and submitting a research grant proposal.

– Receiving relevant and up-to-date information about new research methods.

– Establishing collaborative associations with peers.

– Constructive feedback on research proposals and throughout the research process.

– Assistance in the development of a long-term research and writing plan.

These are some ways in which collaborators can contribute through the mentoring of less experienced researchers.

– Sharing knowledge and experiences with others new to the field

– Serving as a role model; demonstrating leadership in research.

– Involving new researchers who share the same or similar interests to work on current projects in order for them to gain research experience.

– Strengthening research efforts in their field of interest.

Curriculum vitae of team members
This should focus on the individual's experiences relevant to the work he/she will do on your project such as research skills and experiences, management/supervision experience, publications and/or paper presentations.

5. Short Description of the Project (Abstract)
This section should include information relating to:

– The purpose of the research

– The importance of the research

– The background and feasibility of your project

– A brief description of relevant information, the target population, hypotheses, and methodology

– A brief description of methodology and expected results

– A description of the contributions your research will make to the field of knowledge and health outcomes.

6. Background
Make certain that your background discussion remains focused on the issues your research will address. At the end of each topic, point out to the reader how your proposed findings will help resolve important issues in the field.

The background section should contain:

– Information about the **scope of the problem** i.e. why it is widespread, serious, or important.

– A critical **review of the relevant literature**, including highlights of ongoing research and gaps in knowledge. As a general rule, citations older than 10 years should not be used unless they are absolutely necessary in making the case for the proposed study or, if they are seminal works that should not be omitted.

– An explanation of why this study needs to be done, and why this research is relevant and necessary for the target population. The work must be placed in context. Use statistics and prevalence rates to emphasise the need. Spending some time to conduct a small pilot study before you submit your proposal will increase your chances of getting funded. If pilot data is unavailable, specifically mention data relating to similar projects that support any of the ideas or hypotheses of the proposed study.

– A well-grounded theoretical basis for your study or project; remember that reviewers tend to look favourably upon projects that have strong theoretical underpinnings. You need to convince the reviewer that you are planning to test hypotheses, not simply collect data to confirm you favourite hypotheses, and that you are open-minded enough to reject your hypotheses if the experimental results do not support your hypothesis.

– The long-term uses of this research, including the contributions to the existing pool of knowledge.

7. Methodology

Make sure that the study you describe corresponds with the specific objectives you listed earlier in the proposal. Make sure that the underlying science and methods behind your plan are sound, feasible and complete as possible.

Give details of:

– The design of the study (e.g. descriptive, comparative, longitudinal, case-control, quasi-experimental, randomised) and explain why that design was chosen.

– Data collection procedures (how will the data be collected, who will collect the data, what procedures will be used?).

– The procedures for training of researchers or interviewers.

– Access to specialised facilities or equipment where applicable.

– Procedures for handling of participants and confidentiality issues.

– Procedures and approval for working with animals where applicable.

– Possible hazards to research personnel and study participants and procedures to prevent dangerous situations.

Briefly discuss the limitations of the proposed study, and alternative methodologies for carrying out the proposed research plan if these limitations impact negatively on your ability to conduct the study as planned.

Give a timeline for tasks to be completed during the project period. The timeline must accurately reflect what was planned for in the study and be consistent with the requested budget.

The goal of the research design and methods section is to:
– Minimize the number of assumptions reviewers must make about your project.

– Show that you are using scientifically sound approaches.

Statistical Considerations
Ensure that the following have been fully considered in your methodology section:

– What data will be collected and the frequency of data collection.

– The inclusion and non-inclusion criteria for subjects or participants.

– The source of recruitment of subjects or participants is clearly indicated.

– The nature of the control group, if any, indicating whether it will be simultaneously studied or whether it will be a historical reference group.

– The research instruments and data collection forms. If these have already been developed, include a copy of each instrument in an appendix. Include details of previous reliability and validity data for the instruments.

– The sample size. Indicate whether this is sufficient in the light of the expected difference and the variance within the control and test groups. What power does this sample size give you for addressing the objectives of the study? How long will it take to obtain this sample size?

– Data analysis and evaluation. The data collection should address all the objectives of the study and the statistical analysis should consider all the data collected. Indicate the statistical procedures and methods that you will use to analyse the data for each hypothesis you are testing and explain how you will deal with missing data. The methods to be used for statistical analysis must be appropriate and documented.

8. Budget

- Include all other sources of funding for the proposed study.
- Provide a justification for all categories of funds requested.

Researchers that do not have a sound working knowledge of statistics are advised to consult with a biostatistician to ensure that the procedures for sampling, data collection and data analysis are scientifically valid.

- Reviewers can recommend budget cuts when they think that expenses are overly high or unwarranted. The budget must accurately reflect the plan for data collection, data analysis, and data write-up.
- If you are just beginning as an independent investigator, do not ask for a very large grant. Demonstrate that you can complete a good small project for a relatively smaller amount of money and establish a good track record before applying for larger research grants.

9. Outcomes of Your Study

Consider the following questions:

– Why are you doing this research?

– What are the long-term implications? Who will benefit from these findings and who might be deprived or harmed as a result of the study?

– What will happen with the research findings?

– What is the ultimate application or use of the research?

10. Institutional Approval

Ensure that your proposal has the necessary ethics and institutional approval before submitting to the funding agency. Incomplete proposals could be returned to you and will delay the review of your proposal.

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3.2 Writing a Good Grant Proposal

Grants are non-repayable funds disbursed by one party (grant makers), often a government department, corporation, foundation or trust, to a recipient, often (but not always) a nonprofit entity, educational institution, business or an individual. In order to receive a grant, some form of "Grant Writing" often referred to as either a proposal or an application is usually required.

Research grants are suitable for focused research projects that may be short- or long-term in nature. In addition, they can be used to support method development or development and continuation of research facilities and may involve more than one research group or institution. A research grant can be awarded for any period of up to five years, but those of two years or less are for proof of principle or pilot work only.

Approaching a Proposal

The first and most obvious thing to do is to read the advice offered by your funding agency. The most substantial part of any grant application is some form of "Case for Support". It is this case which will persuade, or fail to persuade, your funding body of the value of your proposal. Proposals range very widely indeed in their quality. You can improve your chances enormously simply by ruthlessly writing and rewriting. This document is entirely about improving your case for support.

There are two vital facts to bear in mind:

1. Your case for support will, with luck, be read by one or two experts in your field. But the programme manager, and most members of the panel that judges your proposal against others, won't be expert. You must, must, must write your proposal for their benefit too.
2. Remember that programme managers and panel members see tens or hundreds of cases for support, so you have one minute or less to grab your reader's attention.

Based on these facts, here are two Golden Rules:

1. *Ask lots of people to help you improve your proposal.* Give it to your colleagues, your friends, your spouse, your dog, and listen to what they say. If they misunderstand what you were trying to say, don't say "you misunderstood me"; instead rewrite it

so it can't be misunderstood. If they don't immediately see the value of what you want to achieve, rewrite it until they do. And so on.

    a. This isn't a big demand to make on someone. Ask them to read your proposal for 10 minutes, and say what they think. Remember, most committee members will give it less time than that.

2. *Make sure that the first page acts as a stand-alone summary of the entire proposal.* Assume (it's a safe assumption) that many readers will get no further than the first page. So don't fill it up with boilerplate about the technical background. Instead, present your whole case: what you want to do, why it's important, why you will succeed, how much it will cost, and so on.

Criteria for a good grant proposal

Most funding agencies apply similar criteria to the evaluation of proposals. We discuss these below. It is important to address these criteria directly in your case for support. A proposal which fails to meet them will be rejected regardless of the quality of its source. Otherwise, there is a danger of discriminating unfairly in favour of well-known applicants.

Major Criteria

Here are the major criteria against which your proposal will be judged. Read through your case for support repeatedly, and ask whether the answers to the questions below are clear, even to a non-expert.

1. Does the proposal address a well-formulated problem?
2. Is it a research problem, or is it just a routine application of known techniques?
3. Is it an important problem, whose solution will have useful effects?
4. Is special funding necessary to solve the problem, or to solve it quickly enough, or could it be solved using the normal resources of a well-found laboratory?
5. Do the proposers have a good idea on which to base their work? The proposal must explain the idea in sufficient detail to convince the reader that the idea has some substance, and should explain why there is reason to believe that it is indeed a good idea. It is absolutely not enough merely to identify a wish-list of

desirable goals (a very common fault). There must be significant technical substance to the proposal.

6. Does the proposal explain clearly what work will be done? Does it explain what results are expected and how they will be evaluated? How would it be possible to judge whether the work was successful?
7. Is there evidence that the proposers know about the work that others have done on the problem? This evidence may take the form of a short review as well as representative references.
8. Do the proposers have a good track record, both of doing good research and of publishing it? A representative selection of relevant publications by the proposers should be cited. Absence of a track record is clearly not a disqualifying characteristic, especially in the case of young researchers, but a consistent failure to publish raises question marks.

Secondary Criteria

Some secondary criteria may be applied to separate closely-matched proposals. It is often essentially impossible to distinguish in a truly objective manner among such proposals and it is sad that it is necessary to do so. The criteria are ambiguous and conflict with each other, so the committee simply has to use its best judgment in making its recommendations.

1. An applicant with little existing funding may deserve to be placed ahead of a well-funded one. On the other hand, existing funding provides evidence of a good track record.
2. There is merit in funding a proposal to keep a strong research team together; but it is also important to give priority to new researchers in the field.
3. An attempt is made to maintain a reasonable balance between different research areas, where this is possible.
4. Evidence of industrial interest in a proposal, and of its potential for future exploitation will usually count in its favour. The closer the research is to producing a product the more industrial involvement is required and this should usually include some industrial contribution to the project. The case for support

should include some `route to market' plan, ie you should have thought about how the research will eventually become a product --- identifying an industrial partner is usually part of such a plan.

5. A proposal will benefit if it is seen to address recommendations of Technology Foresight. It is worth looking at the relevant Foresight Panel reports and including quotes in your case for support that relate to your proposal.

Cost-effectiveness

Finally, the programme manager tries to ensure that his or her budget is to be used in a cost-effective manner. Each proposal which has some chance of being funded is examined, and the programme manager may lop costs off an apparently over-expensive project.Such cost reduction is likely to happen if the major costs of staff and equipment are not given clear, individual justification.

Common Shortcomings

Here are some of the ways in which proposals often fail to meet these criteria.

1. It is not clear what question is being addressed by the proposal. In particular, it is not clear what the outcome of the research might be, or what would constitute success or failure. It is vital to discuss what contribution to human knowledge would be made by the research.

2. The question being addressed is woolly or ill-formed. The committee are looking for evidence of clear thinking both in the formulation of the problem and in the planned attack on it.

3. It is not clear why the question is worth addressing. The proposal must be well motivated.

4. The proposal is just a routine application of known techniques. Research funding agencies are interested in funding research rather than development. Industry are expected to fund development work. The LINK scheme is appropriate for proposals which combine both research and development. If the development would benefit another research field, rather than industry, then look to the funding agencies of that field.

5. Industry ought to be doing it instead. If the work is `near market' then it should be done by industry or industry or venture capital should be funding you to do it. If no industry is interested then the prima facie assumption is that the product has no commercial value.

6. There is no evidence that the proposers will succeed where others have failed. It is easy enough to write a proposal with an exciting-sounding wish-list of hoped-for achievements, but you must substantiate your goals with solid evidence of why you have a good chance of achieving them.

   This evidence generally takes two main forms:

   a. "We have an idea". In this case, you should sketch the idea, and describe preliminary work you have done which shows that it is indeed a good idea. You are unlikely to get funding without such evidence. It is not good saying "give us the money and we will start thinking about this problem".

   b. "We have a good track record". Include a selective list of publications, and perhaps include a short paper (preferably a published one) which gives more background, as an appendix. If you make it clear that it is an appendix, you won't usually fall foul of any length limits.

7. A new idea is claimed but insufficient technical details of the idea are given for the committee to be able to judge whether it looks promising. Since the committee cannot be expert in all areas there is a danger of overwhelming them with technical details, but it is better to err by overwhelming them than by underwhelming them. They will usually get an expert referee to evaluate your idea.

8. The proposers seem unaware of related research. Related work must be mentioned, if only to be dismissed. Otherwise, the committee will think that the proposers are ignorant and, therefore, not the best group to fund. The case for support should have a list of references like any paper, and you should look at it to check it has a balanced feel - your referee will do so. Do not make the mistake of giving references only to your own work!

9. The proposed research has already been done - or appears to have been done. Rival solutions must be discussed and their inadequacies revealed.

10. The proposal is badly presented, or incomprehensible to all but an expert in the field. Remember that your proposal will be read by non-experts as well as (hopefully) experts. A good proposal is simultaneously comprehensible to non-experts, while also convincing experts that you know your subject. Keep highly-technical material in well-signposted section(s); avoid it in the introduction.

11. The proposers seem to be attempting too much for the funding requested and time-scale envisaged. Such lack of realism may reflect a poor understanding of the problem or poor research methodology.

12. The proposal is too expensive for the probable gain. If it is easy to see how to cut the request for people/equipment/travel, etc. to something more reasonable then it might be awarded in reduced form. More likely, it will be rejected.

13. The proposers institution should be funding it. Research agencies will usually only fund research that requires resources beyond that which might be expected in a "well-found laboratory" --- indeed, this is part of the charter of the research councils. If it looks like your proposal might be done by a PhD student on the departmental computer then that is what should happen. If the proposer's laboratory is not "well-found" then this is taken to be a vote of no-confidence in the proposer by his/her institution.

Often, one can tell from independent knowledge of the proposers or by reading between the lines of the proposal, that the criteria could have been met if a little bit more thought had gone into the proposal. There is a clear question being addressed by the research, but the proposers failed to clarify what it was. The proposers are aware of related research, but they failed to discuss it in the proposal. The proposers do have some clear technical ideas, but they thought it inappropriate to go into such detail in the proposal. Unfortunately, there is a limit to which funding agencies can give such cases the benefit of the doubt. It is not fair for referees to overlook shortcomings in proposals of which they have personal knowledge if similar shortcomings are not overlooked in proposals which they have not encountered before. In any case, proposals which do meet the criteria deserve precedence.

3.3 Writing a Field Report

Definition

Field reports require the researcher to combine theory and analysis learned in the classroom with methods of observation and practice applied outside of the classroom. The purpose of field reports is to describe an observed person, place, or event and to analyze that observation data in order to identify and categorize common themes in relation to the research problem(s) underpinning the study. The data is often in the form of notes taken during the observation but it can also include any form of data gathering, such as, photography, illustrations, or audio recordings.

How to Approach Writing a Field Report

How to Begin

Field reports are most often assigned in the applied social sciences [e.g., social work, anthropology, gerontology, criminal justice, education, law, the health care professions] where it is important to build a bridge of relevancy between the theoretical concepts learned in the classroom and the practice of actually doing the work you are being taught to do. Field reports are also common in certain science and technology disciplines [e.g., geology] but these reports are organized differently and for different purposes than what is described below.

Professors will assign a field report with the intention of improving your understanding of key theoretical concepts through a method of careful and structured observation of and reflection about real life practice. Field reports facilitate the development of data collection techniques and observation skills and allow you to understand how theory applies to real world situations. Field reports are also an opportunity to obtain evidence through methods of observing professional practice that challenge or refine existing theories.

We are all observers of people, their interactions, places, and events; however, your responsibility when writing a field report is to create a research study based on data generated by the act of observation, a synthesis of key findings, and an interpretation of their meaning. When writing a field report you need to:

1. **Systematically observe and accurately record the varying aspects of a situation**. Always approach your field study with a detailed plan about what you

will observe, where you should conduct your observations, and the method by which you will collect and record your data.

2. **Continuously analyze your observations**. Always look for the meaning underlying the actions you observe. Ask yourself: What's going on here? What does this observed activity mean? What else does this relate to? Note that this is an on-going process of reflection and analysis taking place for the duration of your field research.
3. **Keep the report's aims in mind while you are observing**. Recording what you observe should not be done randomly or haphazardly; you must be focused and pay attention to details. Enter the field with a clear plan about what you are intending to observe and record while, at the same time, be prepared to adapt to changing circumstances as they may arise.
4. **Consciously observe, record, and analyze what you hear and see in the context of a theoretical framework**. This is what separates data gatherings from simple reporting. The theoretical framework guiding your field research should determine what, when, and how you observe and act as the foundation from which you interpret your findings.

Techniques to Record Your Observations

Note Taking

This is the most commonly used and easiest method of recording your observations. Tips for taking notes include: organizing some shorthand symbols beforehand so that recording basic or repeated actions does not impede your ability to observe, using many small paragraphs, which reflect changes in activities, who is talking, etc., and, leaving space on the page so you can write down additional thoughts and ideas about what's being observed, any theoretical insights, and notes to yourself about may require further investigation. See drop-down tab for additional information about note-taking.

Video and Audio Recordings

Video or audio recording your observations has the positive effect of giving you an unfiltered record of the observation event. It also facilitates repeated analysis of your observations. However, these techniques have the negative effect of increasing how intrusive you are as an observer and will often not be practical or even allowed under

certain circumstances [e.g., interaction between a doctor and a patient] and in certain organizational settings [e.g., a courtroom].

Illustrations/Drawings

This does not an artistic endeavor but, rather, refers to the possible need, for example, to draw a map of the observation setting or illustrating objects in relation to people's behavior. This can also take the form of rough tables or graphs documenting the frequency and type of activities observed. These can be subsequently placed in a more readable format when you write your field report.

Examples of Things to Document While Observing

1. **Physical setting**. The characteristics of an occupied space and the human use of the place where the observation(s) are being conducted.
2. **Objects and material culture**. The presence, placement, and arrangement of objects that impact the behavior or actions of those being observed. If applicable, describe the cultural artifacts representing the beliefs--values, ideas, attitudes, and assumptions--used by the individuals you are observing.
3. **Use of language**. Don't just observe but listen to what is being said, how is it being said, and, the tone of conversation among participants.
4. **Behavior cycles**. This refers to documenting when and who performs what behavior or task and how often they occur. Record at which stage is this behavior occurring within the setting.
5. **The order in which events unfold**. Note sequential patterns of behavior or the moment when actions or events take place and their significance.
6. **Physical characteristics of subjects.** If relevant, note age, gender, clothing, etc. of individuals.
7. **Expressive body movements**. This would include things like body posture or facial expressions. Note that it may be relevant to also assess whether expressive body movements support or contradict the use of language.

Brief notes about all of these examples contextualize your observations; however, your observation notes will be guided primarily by your theoretical framework, keeping in mind that your observations will feed into and potentially modify or alter these frameworks.

Sampling Techniques

Sampling refers to the process used to select a portion of the population for study. Qualitative research, of which observation is one method, is generally based on non-probability and purposive sampling rather than probability or random approaches characteristic of quantitatively-driven studies. Sampling in observational research is flexible and often continues until no new themes emerge from the data, a point referred to as data saturation.

All sampling decisions are made for the explicit purpose of obtaining the richest possible source of information to answer the research questions. Decisions about sampling assumes you know what you want to observe, what behaviors are important to record, and what research problem you are addressing before you begin the study. These questions determine what sampling technique you should use, so be sure you have adequately answered them before selecting a sampling method.

Ways to sample when conducting an observation include:

Ad Libitum Sampling -- this approach is not that different from what people do at the zoo--observing whatever seems interesting at the moment. There is no organized system of recording the observations; you just note whatever seems relevant at the time. The advantage of this method is that you are often able to observe relatively rare or unusual behaviors that might be missed by more deliberate sampling methods. This method is also useful for obtaining preliminary observations that can be used to develop your final field study. Problems using this method include the possibility of inherent bias toward conspicuous behaviors or individuals and that you may miss brief interactions in social settings.

Behavior Sampling -- this involves watching the entire group of subjects and recording each occurrence of a specific behavior of particular interest and with reference to which individuals were involved. The method is useful in recording rare behaviors missed by other sampling methods and is often used in conjunction with focal or scan methods. However, sampling can be biased towards particular conspicuous behaviors.

Continuous Recording -- provides a faithful record of behavior including frequencies, durations, and latencies [the time that elapses between a stimulus and the response to it]. This is a very demanding method because you are trying to record everything within the setting and, thus, measuring reliability may be sacrificed. In addition, durations and latencies are only reliable if subjects remain present throughout the collection of data. However, this method facilitates analyzing sequences of behaviors and ensures obtaining a wealth of data about the observation site and the people within it. The use of audio or video recording is most useful with this type of sampling.

Focal Sampling -- this involves observing one individual for a specified amount of time and recording all instances of that individual's behavior. Usually you have a set of predetermined categories or types of behaviors that you are interested in observing [e.g., when a teacher walks around the classroom] and you keep track of the duration of those behaviors. This approach doesn't tend to bias one behavior over another and provides significant detail about a individual's behavior. However, with this method, you likely have to conduct a lot of focal samples before you have a good idea about how group members interact. It can also be difficult within certain settings to keep one individual in sight for the entire period of the observation.

Instantaneous Sampling -- this is where observation sessions are divided into short intervals divided by sample points. At each sample point the observer records if predetermined behaviors of interest are taking place. This method is not effective for recording discrete events of short duration and, frequently, observers will want to record novel behaviors that occur slightly before or after the point of sampling, creating a sampling error. Though not exact, this method does give you an idea of durations and is relatively easy to do. It is also good for recording behavior patterns occurring at a specific instant, such as, movement or body positions.

One-Zero Sampling -- this is very similar to instantaneous sampling, only the observer records if the behaviors of interest have occurred at any time during an interval instead of at the instant of the sampling point. The method is useful for capturing data on behavior patterns that start and stop repeatedly and rapidly, but that last only for a brief period of time. The disadvantage of this approach is that you get a dimensionless score for an entire recording session, so you only get one data point for each recording session.

Scan Sampling -- this method involves taking a census of the entire observed group at predetermined time periods and recording what each individual is doing at that moment. This is useful for obtaining group behavioral data and allows for data that are evenly representative across individuals and periods of time. On the other hand, this method may be biased towards more conspicuous behaviors and you may miss a lot of what is going on between observations, especially rare or unusual behaviors.

Structure and Writing Style

How you choose to format your field report is determined by the research problem, the theoretical perspective that is driving your analysis, the observations that you make, and/or specific guidelines established by your professor. Since field reports do not have a standard format, it is worthwhile to determine from your professor what the preferred organization should be before you begin to write. Note that field reports should be written in the past tense. With this in mind, most field reports in the social sciences include the following elements:

I. Introduction

The introduction should describe the specific objective and important theories or concepts underpinning your field study. The introduction should also describe the nature of the organization or setting where you are conducting the observation, what type of observations you have conducted, what your focus was, when you observed, and the methods you used for collecting the data. You should also include a review of pertinent literature.

II. Description of Activities

Your reader's only knowledge and understanding of what happened will come from the description section of your report because they have not been witness to the situation, people, or events that you are writing about. Given this, it is crucial that you provide sufficient details to place the analysis that will follow into proper context; don't make the mistake of providing a description without context. The description section of a field report is similar to a well written piece of journalism. Therefore, a helpful approach to systematically describing the varying aspects of an observed situation is to answer the "Five W's of Investigative Reporting." These are:

- **What** -- describe what you observed. Note the temporal, physical, and social boundaries you imposed to limit the observations you made. What were your general impressions of the situation you were observing. For example, as a student teacher, what is your impression of the application of iPads as a learning device in a history class; as a cultural anthropologist, what is your impression of women participating in a Native American religious ritual?
- **Where** -- provide background information about the setting of your observation and, if necessary, note important material objects that are present that help contextualize the observation [e.g., arrangement of computers in relation to student engagement with the teacher].
- **When** -- record factual data about the day and the beginning and ending time of each observation. Note that it may also be necessary to include background information or key events which impact upon the situation you were observing [e.g., observing the ability of teachers to re-engage students after coming back from an unannounced fire drill].
- **Who** -- note the participants in the situation in terms of age, gender, ethnicity, and/or any other variables relevant to your study. Record who is doing what and saying what, as well as, who is not doing or saying what. If relevant, be sure to record who was missing from the observation.
- **Why** -- why were you doing this? Describe the reasons for selecting particular situations to observe. Note why something happened. Also note why you may have included or excluded certain information.

III. Interpretation and Analysis

Always place the analysis and interpretations of your field observations within the larger context of the theories and issues you described in the introduction. Part of your responsibility in analyzing the data is to determine which observations are worthy of comment and interpretation, and which observations are more general in nature. It is your theoretical framework that allows you to make these decisions. You need to demonstrate to the reader that you are looking at the situation through the eyes of an informed viewer, not as a lay person.

Here are some questions to ask yourself when analyzing your observations:

1. What is the meaning of what you have observed?
2. Why do you think what you observed happened? What evidence do you have for your reasoning?
3. What events or behaviors were typical or widespread? If appropriate, what was unusual or out of ordinary? How were they distributed among categories of people?
4. Do you see any connections or patterns in what you observed?
5. Why did the people you observed proceed with an action in the way that they did? What are the implications of this?
6. Did the stated or implicit objectives of what you were observing match what was achieved?
7. What were the relative merits of the behaviors you observed?
8. What were the strengths and weaknesses of the observations you recorded?
9. Do you see connections between what you observed and the findings of similar studies identified from your review of the literature?
10. How do your observations fit into the larger context of professional practice? In what ways have your observations possibly changed your perceptions of professional practice?
11. Have you learned anything from what you observed?

NOTE: Only base your interpretations on what you have actually observed. Do not speculate or manipulate your observational data to fit into your study's theoretical framework.

IV. Conclusion and Recommendations

The conclusion should briefly recap of the entire study, reiterating the importance or significance of your observations. Avoid including any new information. You should also state any recommendations you may have. Be sure to describe any unanticipated problems you encountered and note the limitations of your study. The conclusion should not be more than two or three paragraphs.

V. Appendix

This is where you would place information that is not essential to explaining your findings, but that supports your analysis [especially repetitive or lengthy information], that validates your conclusions, or that contextualizes a related point that helps the reader understand the overall report. Examples of information that could be included in an appendix are figures/tables/charts/graphs of results, statistics, pictures, maps, drawings, or, if applicable, transcripts of interviews. There is no limit to what can be included in the appendix or its format [e.g., a DVD recording of the observation site], provided that it is relevant to the study's purpose and reference is made to it in the report. If information is placed in more than one appendix ["appendices"], the order in which they are organized is dictated by the order they were first mentioned in the text of the report.

VI. References

List all sources that you consulted and obtained information from while writing your field report. Note that field reports generally do not include further readings or an extended bibliography. However, consult with your professor concerning what your list of sources should be included. Be sure to write them in the preferred citation style of your discipline [i.e., APA, Chicago, MLA, etc.].


Section 4

PUBLICATION ETHICS AND PUBLICATION MALPRACTICE STATEMENT

4.1 Ethics in Research

4.2 Plagiarism in Research

4.3 Peer Review Guideline for Editorial Board

4.1 Ethics in Research

Ethics connotes what is morally right and what is not. According to Cambridge International Dictionary, ethics has to do with or relates to moral action and conduct i.e. what is professionally right. It is about conforming to professional standards. Thus Ethics means the best of practice. Ethics in research therefore means the best practice required in any research effort.

A research study may achieve one of the following objectives: breaking new grounds, further breakthroughs thus advancing knowledge beyond an existing breakthrough and re – emphasizing or re – assertion of an existing breakthrough. The utility of the third objective lies in the justification or acceptance of an existing conclusion in respect of the earlier breakthrough. Also, it is essential to note that certain characteristics are common to all research efforts.

These characteristics include;

1. Originality
2. Usage of acceptable research methodology
3. Usefulness: It must be a useful product of human effort and it must be legal.

In the process of carrying out a research study, the researcher is permitted, indeed expected to consult existing literature on the subject – matter of the research. The sources of consultation, the existing literature or research effort must however be stated clearly. The underlying reason for this is that an existing research effort or literature review may ginger up further thought and may ultimately produce further breakthroughs.

It is also permitted to consult existing literature in order to give validity to one's effort. The researcher is permitted to do this as long as it is within the permissive extent of the law. The facilitator for this module is expected to expound this further and teach different ways of sighting existing literature in a new work being done.

Our Publication Ethics and Publication Malpractice Statement is based on the Best Practice Guidelines for Journal Editors and the position statements developed by the Committee on Publication Ethics (COPE) at the 2nd World Conference on Research Integrity, Singapore 2010. For further details see this link, http://www.ethics.elsevier.com/pdf/ETHICS

Publication decisions: The editor is responsible for deciding which of the articles submitted to the journal should be published. The editor may be guided by the policies of the journal's editorial board and constrained by such legal requirements as shall then be in force regarding libel, copyright infringement and plagiarism. The editor may confer with other editors or reviewers in making this decision.

Fair play: An editor at any time evaluate manuscripts for their intellectual content without regard to race, gender, sexual orientation, religious belief, ethnic origin, citizenship, or political philosophy of the authors.

Confidentiality: The editor and any editorial staff must not disclose any information about a submitted manuscript to anyone other than the corresponding author, reviewers, potential reviewers, other editorial advisers, and the publisher, as appropriate.

Disclosure and conflicts of interest: Unpublished materials disclosed in a submitted manuscript must not be used in an editor's own research without the express written consent of the author.

Duties of Reviewers

Contribution to Editorial Decisions: Peer review assists the editor in making editorial decisions and through the editorial communications with the author who may also assist the author in improving the paper.

Promptness: Any selected referee who feels unqualified to review the research report in a manuscript or knows that its prompt review will be impossible should notify the editor and excuse himself from the review process.

Confidentiality: Any manuscripts received for review must be treated as confidential documents. They must not be shown to or discussed with others except as authorized by the editor.

Standards of Objectivity: Reviews should be conducted objectively. Personal criticism of the author is inappropriate. Referees should express their views clearly with supporting arguments.

Acknowledgment of Sources: Reviewers should identify relevant published work that has not been cited by the authors. Any statement or an observation, derivation, or argument that had been previously reported should be accompanied by the relevant citation. A reviewer should also call the editor's attention to any substantial similarity or overlap between the manuscript under consideration and any other published paper of which they have personal knowledge.

Disclosure and Conflict of Interest: Privileged information or ideas obtained through peer review must be kept confidential and not used for personal advantage. Reviewers should not consider manuscripts in which they have conflicts of interest resulting from competitive, collaborative, or other relationships or connections with any of the authors, companies, or institutions connected to the papers.

Duties of Authors

Reporting standards: Authors of reports of original research should present an accurate account of the work performed as well as an objective discussion of its significance. Underlying data should be represented accurately in the paper. A paper should contain sufficient detail and references to permit others to replicate the work. Fraudulent or knowingly inaccurate statements constitute unethical behavior and are unacceptable.

Originality and Plagiarism: The authors should ensure that they have written entirely original works, and if the authors have used the work and/or words of others that this has been appropriately cited or quoted.

Multiple, Redundant or Concurrent Publication: An author should not in general publish manuscripts describing essentially the same research in more than one journal or primary publication. Submitting the same manuscript to more than one journal concurrently constitutes unethical publishing behaviour and is unacceptable.

Acknowledgement of Sources: Proper acknowledgment of the work of others must always be given. Authors should cite publications that have been influential in determining the nature of the reported work.

Authorship of the Paper: Authorship should be limited to those who have made a significant contribution to the conception, design, execution, or interpretation of the reported study. All those who have made significant contributions should be listed as co-authors. Where there are others who have participated in certain substantive aspects of the research project, they should be acknowledged or listed as contributors. The corresponding author should ensure that all appropriate co-authors and no inappropriate co-authors are included on the paper, and that all co-authors have seen and approved the final version of the paper and have agreed to its submission for publication.

Disclosure and Conflicts of Interest: All authors should disclose in their manuscript any financial or other substantive conflict of interest that might be construed to influence the results or interpretation of their manuscript. All sources of financial support for the project should be disclosed.

Fundamental errors in published works: When an author discovers a significant error or inaccuracy in his/her own published work, it is the author's obligation to promptly notify the journal editor or publisher and cooperate with the editor to retract or correct the paper.

4.2 PLAGIARISM IN RESEARCH

Plagiarism is presenting the words or ideas of someone else as your own without proper acknowledgment of the source. In minor cases, it can be the quotation of a sentence or two, without quotation marks and without a citation (e.g., footnote) to the true author.
In the most serious cases, a significant fraction of the entire work was written by someone else: the plagiarist removes the true author(s) names(s) and substitutes the plagiarist's name, perhaps does some re-formatting of the text, then submits the work for credit (e.g., term paper or essay) or as part of the requirements for a degree (e.g., thesis or dissertation), or even as a professional/personal concern (e.g., article, blog entry, news item, etc.).

The Law of Plagiarism:

Research organisations, College and University rules for student conduct sometimes say that plagiarism is an academic offense, *not* a legal offense. That statement is not correct. These institutions and professional entities certainly have the authority to punish

plagiarists in various ways, including expulsion from the college or revoking a degree earned in part by plagiarism. But plagiarism is also a legal issue.

Avoid getting penalized: Effective Plagiarism Checking Solution. Check For Plagiarism.net provides a unique opportunity for you to check your submitted documents' through our patented plagiarism checking engine, identifying all instances of either intentional (deliberate) or unintentional (non-deliberate) attempts at plagiarism.

4.3 PEER REVIEW GUIDELINE FOR EDITORIAL BOARD

Peer review is a critical element of scholarly publication and one of the major cornerstones of the scientific process. Peer Review serves two key functions:

a. Acts as a filter: Ensures research is properly verified before being published.

b. Improves the quality of the research: rigorous review by other experts helps to point out key points and correct inadvertent errors.

Criteria for Article review

You would be expected to evaluate the article according to the following criteria:

- Originality

Is the article sufficiently novel and interesting to warrant publication? Does it add to the cannon of knowledge? Does the article adhere to the journal's standards? Is the research question an important one? In order to determine its originality and appropriateness for the journal, it might be helpful to think of the research in terms of what percentile it is in? Is it in the top 25% of papers in its field? You might wish to do a quick literature search using tools such as Scopus to see if there are any reviews of the area. If the research has been covered previously, pass on references of those works to the editor.

- Structure

Is the article clearly laid out? Are all the key elements (where relevant) present: abstract, introduction, literature, methodology, results, conclusions? Consider each element in turn:

- Title: Does it clearly describe the article?
- Abstract: Does it reflect the content of the article?

1. Where graphical abstracts and/or highlights are included, please check the content and if possible make suggestions for improvements. Follow these links for more information on graphical abstracts and highlights.
2. **Introduction:** Does it describe what the author hoped to achieve accurately and clearly state the problem being investigated? Normally, the introduction should summarize relevant research to provide context and explain what other authors' findings, if any are being challenged or extended. It should describe the experiment, the hypothesis (es) and the general experimental design or method.
3. **Literature:** Is there sufficient literature to explain key variables in the article? How relevant are the literatures in term years? Works cited should be more than 10years, unless there are very useful for comparative purposes or are cited in theoretical frameworks. The theoretical framework must be useful in explaining the research problem and the findings.
4. **Method:** Does the author accurately explain how the data was collected? Is the design suitable for answering the questions posed? Is there sufficient information present for you to replicate the research? Does the article identify the procedures followed? Are these ordered in a meaningful way? If the methods are new, are they explained in detail? Was the sampling appropriate? Have the equipment and materials been adequately described? Does the article make it clear what type of data was recorded; has the author been precise in describing measures?
5. **Results:** This is where the author(s) should explain in words what he/she/they discovered in the research. It should be clearly laid out and in a logical sequence. You will need to consider if the appropriate analysis has been conducted. Are the statistics correct? If you are not comfortable with statistics, please advise the editor when you submit your report. Interpretation of results should not be included in this section.
6. **Conclusion/Discussion:** Are the claims in this section supported by the results, do they seem reasonable? Have the authors indicated how the results

relate to expectations and to earlier research? Does the article support or contradict previous theories? Does the conclusion explain how the research has moved the body of scientific knowledge forward?

7. **Language:** If an article is poorly written due to grammatical errors, it may make it more difficult to understand the science; you can correct the English. However, were very bad and difficult, you should bring this to the attention of the editor, however.

8. Finally, on balance, when considering the whole article, do the figures and tables inform the reader, are they an important part of the story? Do the figures describe the data accurately? Are they consistent, e.g. bars and charts the same width, the scales on the axis logical.

- Previous Research

If the article builds upon previous research does it reference that work appropriately? Are there any important works that have been omitted? Are the references accurate?

- Ethical Issues

1. **Plagiarism:** Already cited above, but for emphasis, If you suspect that an article is a substantial copy of another work, please let the editor know, citing the previous work in as much detail as possible
2. **Fraud:** It is very difficult to detect the determined fraudster, but if you suspect the results in an article to be untrue, discuss it with the editor
3. **Other ethical concerns:** For medical research, has confidentiality been maintained? Has there been a violation of the accepted norms in the ethical treatment of animal or human subjects? If so, then these should also be identified to the editor

Final recommendations

1. **Un-publishable articles:** The main focus of your report should be constructive comments that will assist the author as they rewrite their article. In the case that articles you are recommending should be rejected, it is particularly important that you make suggestions about how the article might be rewritten or a different kind of article addressing similar themes might be written for resubmission to this or a different journal. All comments should be constructively directed, advising the author of next steps. If an article is rejected, the author(s) will be required to resubmit a revised version with a change note for review by new referees. Articles that referees reject may only be resubmitted once.
2. **Publishable articles:** Your suggestions and feedback are valuable, even for the very best of articles and when you recommend for publication. Since the articles were presented at the conference plenary sessions and basic corrections pointed out, which was to guide the author in the correction process, we hope that most articles corrected and resubmitted for assessment and publication will have minor corrections. After your corrections, it will be important to carry out a simple proof checklist since the article is considered publishable.