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**CHALIMBANA UNIVERSITY**

**SCHOOL OF LEADERSHIP AND BUSINESS MANAGEMENT**

**DEPARTMENT OF LEADERSHIP MANAGEMENT**

**DTL 4704 RESEARCH PROJECT**

**First Edition 2023**

**Author:** Miyoba C. Mwiinga, PhD

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First Edition

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Chalimbana University

School of Humanities and Social Sciences

Department Literature and Languages

Private bag E – 1

Chongwe

Zambia

Cell: +260 977 717 248

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# **MODULE OVERVIEW**

**DTL 4704 RESEARCH PROJECTS**

**Prerequisite:**

**Background**

This course deals with research methods and project writing in Traditional Leadership and Management. Research methods in Traditional Leadership may be similar to those of any educational subject but there may be areas where one research would differ from another even in the same field. This course will guide the students as close as possible in the selection of the study topic, choice of data collection methods and instruments and how to analyse data.

**Rationale**

This course aims at equipping students in research methods and project writing in lTraditional Leadership and Management. The course will help students to come up with skills on how they can carry out a research in order to search for new knowledge. This may add to the body of knowledge and lead to solutions to societal problems.

**Learning Outcomes**

At the end of this course, the students will be expected to:

* outline the components of a research proposal
* explain the methods of data collection and analysis
* discuss sources of data
* analyse parts of a project report
* appropriately write a report following laid down procedures.

# **Assessment**

Course work: assignments and examinations

|  |  |  |
| --- | --- | --- |
| Assessment | Comments | Percentage |
| Assignment 1 | Written | 20% |
| Assignment 2 (seminar) | Team work | 10% |
| Test |  | 20% |
| Final exam |  | 50% |
| **Total** |  | **100%** |

**Prescribed Readings**

Gupta, M and Gupta D. (2013). *Research Methodology*. New Delhi: PHI Learning Private Ltd.

Kombo, D. K. (2009) *Proposal and Thesis Writing: An Introduction*. (7th Print). Nairobi: Paulines Publications Africa Methods. Nairobi: Acts Press

Litosseliti, L. (Ed.) (2010). *Research Methods in Linguistics*. New York: CIPG

Msabila, D. and Nalaila S. G. (2013). *Research Proposal and Dissertation Writing: Principles and Practices*. Dar es Salaam: Nyambari Nyangwine Group of Companies Ltd.

Norton, L. S. (2009). *Action Research in Teaching and Learning: A Practical guide to conducting pedagogical research in universities*. London: Routledge

Patton, M. (2002). *Qualitative Research and Evaluation Methods* (3rd edition). Thousand Oaks, CA: Sage.

**Recommended Readings**

Cresswell, J. (2003). *Research Design: Quantitative and Qualitative Approaches*. Thousand Oak, Californian: Sage Publications.

Mugenda, O. M and A. G. Mugenda. (2003). *Research Methods: Quantitative and Qualitative*

*Approaches*. Nairobi: ACTS Press

Maxwell, J. (1996). *Qualitative Research design: An Interactive Approach*. *Program Evaluation*. San Francisco, CA: Jossey-Bass

**Summary**

Research means to carefully analyse the problems or to do the detailed study of the specific problems, by making use of special scientific methods. The quality which you maintain while researching should always be high so that the information that you get can be used in certain policies and any future project implications. The main aim of the goals is to provide the best of the solution to some of the world problems and also to enhance our knowledge. Research is a tool for building knowledge and for facilitating learning, a means to understand various issues and increase public awareness. It is an aid to business success and a way to prove lies and to support truths. Besides, research is a means to find, gauge, and seize opportunities. It is a seed to love reading, writing, analysing, and sharing valuable information and overall, nourishment and exercise for the mind. This course is designed to help students understand the importance of research in order to get deep into the various topics in Traditional Leadership and Management so that something helpful can churn out, which can be helpful for everybody and used in those particular niche sectors. It is hoped that the knowledge and skills presented in this module will be helpful in the achievement of vision 2030 by making sure the students become knowledgeable and capable of putting into practice disseminating their research findings to relevant authorities and organisations.

**STUDY SKILLS**

As an adult learner, your approach to learning will be different to that of your school days: you will choose when you want to study, you will have professional and/or personal motivation for doing so and you will most likely be fitting your study activities around other professional or domestic responsibilities.

Essentially you will be taking control of your learning environment. As a consequence, you will need to consider performance issues related to time management, goal setting, stress management, etc. Perhaps you will also need to acquaint yourself with areas such as essay planning, searching for information, writing, coping with examinations and using the internet as a learning resource.

Your most significant considerations will be time and space i.e. the time you dedicate to your learning and the environment in which you engage in that learning.

It is recommended that you take time now - before starting your self-study - to familiarise yourself with these issues. There are a number of excellent resources on the web. A few suggested links are:

http://www.how-to-study.com/ the “How to study” website is dedicated to study skills resources. You will find links to study preparation (a list of nine essentials for a good study place), taking notes, strategies for reading text books, using reference sources, test anxiety.

http://www.ucc.vt.edu/stdysk/stdyhlp.html. This is the website of the Virginia Tech, Division of Student Affairs. You will find links to time scheduling (including a “where does time go?” link), a study skill checklist, basic concentration techniques, control of the study environment, note taking, how to read essays for analysis, memory skills (“remembering”).

**Time Frame**

You are expected to spend at least 18 hours of study time on this module. In addition, there shall be arranged contact sessions with lecturers from the University during residential possibly in April, August and December. You are requested to spend your time judiciously so that you reap maximum benefit from the course.

**Need Help?**

In case you have difficulties during the duration of the course, please get in touch with your lecturer for routine enquiries during working days (Monday-Friday) from 09:00 to 16:00 hours on Cell:

0977717248, Mwiinga C.M. Lecturer Chau. You can also see the undersigned at the office during working hours as stated above.

**Required Resources**

You are free to utilise the services of the University Library which opens from 07:00 hours to 20:00 hours every working day.

It will be important for you to carry your student identity card for you to access the library and let alone borrow books.

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# **UNIT 1: THE RESEARCH PROCESS**

**1.0 Introduction**

Welcome to unit one of the Research Project. In this unit we are dealing with the research process which basically looks at the research proposal. A research proposal describes what you will investigate, why it is important, and how you will do the research. There may be some variation on how the sections of the proposal are named or divided, but the overall goals are always the same.

**Learning Outcomes**

As you work through this unit, you should be able to:

* explain what a research proposal is
* explicate the principles of a good proposal
* outline the elements of a research proposal
* write an appropriate literature review on a topic of your choice
* apply the American Psychological Association (APA) system of referencing in your preparation of the research proposal

## **1.1** **Principles of Good Research**

### 

All research is different but the following factors are common to all good pieces of research

* There is a clear statement of research aims, which defines the research questions.
* The methodology is appropriate to the research question. So, if the research is into people’s perceptions, a more qualitative, unstructured interview may be appropriate. If the research aims to identify the scale of a problem or need, a more quantitative, randomised, statistical sample survey may be more appropriate. Good research can often use a combination of methodologies, which complement one another.
* The research should be carried out in an unbiased fashion. As far as possible the researcher should not influence the results of the research in any way. If this is likely, it needs to be addressed explicitly and systematically.
* From the beginning, the research should have appropriate and sufficient resources in terms of people, time, transport, money etc. allocated to it.
* The people conducting the research (if you get research assistants) should be trained in research and research methods and this training should provide:
* knowledge around appropriate information gathering techniques,
* an understanding of research issues,
* an understanding of the research area,
* an understanding of the issues around dealing with vulnerable social care clients and housing clients, especially regarding risk, privacy and sensitivity and the possible need for support.
* Those involved in designing, conducting, analysing and supervising the research should have a full understanding of the subject area.
* In some instances, it helps if the researcher has experience of working in the area. However, this can also be a negative factor, as sometimes research benefits from the eyes and ears of an outsider, which may lead to less bias.
* If applicable, the information generated from the research will inform the policy-making process.
* All research should be ethical and not harmful in any way to the participants.

### **1.2 Components of a Research Proposal**

In general, the proposal components include the following.

**1. Introduction (or Background information)**

This provides the reader with a broad overview of the problem in context. Wilkinson (1991:96) submits that,“the introduction is the part of the paper that provides readers with the background information for the research reported in the paper. Its purpose is to establish a framework for the research, so that readers can understand how it is related to other research”.

In an introduction, the researcher should create reader interest in the topic, lay the broad foundation for the problem that leads to the study, place the study within the larger context of the scholarly literature, and reach out to a specific audience (Creswell, 1994).

**2. Statement of the Problem**

This section answers the question, “What research problem are you going to investigate?” As Wiersma (1995: 404) posits, “the problem statement describes the context for the study and it also identifies the general analysis approach”. While Creswell (1994: 50) avows that, “A problem might be defined as the issue that exists in the literature, theory, or practice that leads to a need for the study” (Creswell, 1994: 50).

It is important that the problem stand out in a proposal - that the reader can easily recognise it. Sometimes, obscure and poorly formulated problems are masked in an extended discussion. In such cases, supervisors, examiners or course lecturers will have difficulty recognising the problem.

A problem statement should be presented within a context, and that context should be provided and briefly explained. State the problem in terms intelligible to someone who is generally sophisticated but who is relatively uninformed in the area of your investigation.

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

***Activity 1.1***

*Draft a statement of the problem for your research topic and present to your supervisor.*

**3. Purpose of the Study**

The purpose of study briefly defines and delimits the specific area of the research. It foreshadows the hypotheses to be tested or the questions to be raised, as well as the significance of the study. These will require specific elaboration in subsequent sections. Locke, Spirduso, and Silverman, (1987: 5) contend that, “the purpose statement should provide a specific and accurate synopsis of the overall purpose of the study”. If the purpose is not clear to the researcher, it cannot be clear to the reader.

Key points to keep in mind when preparing a purpose statement.

* Try to incorporate a sentence that begins with “The purpose of this study is . . .”

This will clarify your own mind as to the purpose and it will inform the reader directly and explicitly.

* Clearly identify and define the central concepts or ideas of the study.
* You should have a general objective and specific objectives stated clearly.

**4. Research Questions and/or Hypotheses**

Questions are relevant to normative or census type research (How many of them are there? Is there a relationship between them?). They are most often used in qualitative inquiry, although their use in quantitative inquiry is becoming more prominent. Hypotheses are relevant to theoretical research and are typically used only in quantitative inquiry. When a writer states hypotheses, the reader is entitled to have an exposition of the theory that led to them (and of the assumptions underlying the theory). Just as conclusions must be grounded in the data, hypotheses must be grounded in the theoretical framework.

A research question poses a relationship between two or more variables but phrases the relationship as a question; a hypothesis represents a declarative statement of the relations between two or more variables (Kerlinger, 1979; Krathwohl, 1988).

Deciding whether to use questions or hypotheses depends on factors such as the purpose of the study, the nature of the design and methodology, and the audience of the research (at times even the taste and preference of the researcher).

The practice of using hypotheses was derived from using the scientific method in social science inquiry. They have philosophical advantages in statistical testing, as researchers should be and tend to be conservative and cautious in their statements of conclusions (Armstrong, 1974).

Hypotheses can be couched in four kinds of statements.

* Literary null - a “no difference” form in terms of theoretical constructs. For example, “There is no relationship between support services and academic persistence of nontraditional-aged college women.” Or, “There is no difference in school achievement for high and low self-regulated students.”
* Operational null - a “no difference” form in terms of the operation required to test the hypothesis. For example, “There is no relationship between the number of hours nontraditional-aged college women use the student union and their persistence at the college after their freshman year.” Or, “There is no difference between the mean grade point averages achieved by students in the upper and lower quartiles of the distribution of the Self-regulated Inventory.” The operational null is generally the preferred form of hypothesis-writing.
* Literary alternative - a form that states the hypothesis you will accept if the null hypothesis is rejected, stated in terms of theoretical constructs. In other words, this is usually what you hope the results will show. For example, “The more that nontraditional-aged women use support services, the more they will persist academically.” Or, “High self-regulated students will achieve more in their classes than low self-regulated students.”
* Operational alternative - Similar to the literary alternative except that the operations are specified. For example, “The more that nontraditional-aged college women use the student union, the more they will persist at the college after their freshman year.” Or, “Students in the upper quartile of the Self-regulated Inventory distribution achieve significantly higher grade point averages than do students in the lower quartile.”

In general, the null hypothesis is used if theory/literature does not suggest a hypothesised relationship between the variables under investigation; the alternative is generally reserved for situations in which theory/research suggests a relationship or directional interplay.

Be prepared to interpret any possible outcomes with respect to the questions or hypotheses. It will be helpful if you visualise in your mind’s eye the tables (or other summary devices) that you expect to result from your research (Guba, 1961).

Questions and hypotheses are testable propositions deduced and directly derived from theory (except in grounded theory studies and similar types of qualitative inquiry).

Make a clear and careful distinction between the dependent and independent variables and be certain they are clear to the reader. Be excruciatingly consistent in your use of terms. If appropriate, use the same pattern of wording and word order in all hypotheses or research questions.

**5. Limitations and Delimitations**

A limitation identifies potential weaknesses of the study. Think about your analysis, the nature of self-report, your instruments, the sample. Think about threats to internal validity that may have been impossible to avoid or minimise, then explain.

A delimitation addresses how a study will be narrowed in scope, that is, how it is bounded. This is the place to explain the things that you are not doing and why you have chosen not to do them - the literature you will not review (and why not), the population you are not studying (and why not), the methodological procedures you will not use (and why you will not use them). Limit your delimitations to the things that a reader might reasonably expect you to do but that you, for clearly explained reasons, have decided not to do.

**6. Significance of the Study**

Indicate how your research will refine, revise, or extend existing knowledge in the area under investigation. Note that such refinements, revisions, or extensions may have either substantive, theoretical, or methodological significance. Think pragmatically.

This can be a difficult section to write. Think about implications - how results of the study may affect scholarly research, theory, practice, educational interventions, curricula, counseling, policy.

When thinking about the significance of your study, ask yourself the following questions.

* What will the results mean to the theoretical framework that framed the study?
* What suggestions for subsequent research arise from the findings?
* What will the results mean to the practicing educator?
* Will results influence programmes, methods, and/or interventions
* Will results contribute to the solution of educational problems?
* Will results influence educational policy decisions?
* What will be improved or changed as a result of the proposed research?
* How will results of the study be implemented, and what innovations will come about?

**7. Theoretical Framework**

In your study you have to identify a theory that will guide your study. That theory should be explained and then related to the study. That is, you tell the audience how you will apply that theory to your study. Remember that the theory/line of inquiry selected will inform the statement of the problem, rationale for the study, questions or hypotheses, selection of instruments, and choice of methods. Ultimately, findings will be discussed in terms of how they relate to the theory/line of inquiry that undergirds the study.

Theories, theoretical frameworks, and lines of inquiry may be differently handled in quantitative and qualitative endeavours.

In quantitative studies, one uses theory deductively and places it toward the beginning of the plan for a study. The objective is to test or verify theory. One thus begins the study advancing a theory, collects data to test it, and reflects on whether the theory was confirmed or disconfirmed by the results in the study. The theory becomes a framework for the entire study, an organising model for the research questions or hypotheses for the data collection procedure (Creswell, 1994, pp. 87-88).

In qualitative inquiry, the use of theory and of a line of inquiry depends on the nature of the investigation. In studies aiming at ‘grounded theory,’ for example, theory and theoretical tenets emerge from findings. Much qualitative inquiry, however, also aims to test or verify theory, hence in these cases the theoretical framework, as in quantitative efforts, should be identified and discussed early on.

**Review of the Literature**

The literature review shows how your approach builds on existing research; helps you identify methodological and design issues in studies similar to your own; introduces you to measurement tools others have used effectively; helps you interpret findings; and ties results of your work to those who have preceded you. As Wiersma (1995: 406) postulates, “the review of the literature provides the background and context for the research problem. It should establish the need for the research and indicate that the writer is knowledgeable about the area”.

The literature review accomplishes several important things.

* It shares with the reader the results of other studies that are closely related to the study being reported (Fraenkel & Wallen, 1990).
* It relates a study to the larger, ongoing dialogue in the literature about a topic, filling in gaps and extending prior studies (Marshall & Rossman, 1989).
* It provides a framework for establishing the importance of the study, as well as a benchmark for comparing the results of a study with other findings.
* It ‘frames’ the problem earlier identified.

In the literature review, as a researcher you should demonstrate to the reader that you have a comprehensive grasp of the field and are aware of important recent substantive and methodological developments.

Delineate the ‘jumping-off place’ for your study. How will your study refine, revise, or extend what is now known?

Avoid statements that imply that little has been done in the area or that what has been done is too extensive to permit easy summary. Statements of this sort are usually taken as indications that the researcher is not really familiar with the literature.

In a proposal, the literature review is generally brief and to the point. Be judicious in your choice of exemplars - the literature selected should be pertinent and relevant. Select and reference only the more appropriate citations. Make key points clearly and succinctly.

**9. The Design - Methods and Procedures (Methodology)**

This section describes how you will go about answering your research questions or confirming your hypothesis(es). Wiersma (1995: 409) submits that, “the methods or procedures section is really the heart of the research proposal. The activities should be described with as much detail as possible, and the continuity between them should be apparent”.

As a researcher, you should indicate the methodological steps you will take to answer every research question or to test every hypothesis illustrated in the Questions/Hypotheses section.

All research is plagued by the presence of confounding variables (the noise that covers up the information you would like to have). Confounding variables should be minimized by various kinds of controls or be estimated and taken into account by randomization processes (Guba, 1961).

In the design section, you should indicate:

* the variables you propose to control and how you propose to control them, experimentally or statistically, and
* the variables you propose to randomize, and the nature of the randomizing unit (communities, women, students, grades, schools, etc.).

Be aware of possible sources of error to which your design exposes you. You will not produce a perfect, error free design (no one can). However, you should anticipate possible sources of error and attempt to overcome them or take them into account in your analysis. Moreover, you should disclose to the reader the sources you have identified and what efforts you have made to account for them.

**Sampling**

The key reason for being concerned with sampling is that of validity - the extent to which the interpretations of the results of the study follow from the study itself and the extent to which results may be generalized to other situations with other people (Shavelson, 1988). You dealt with this aspect in detail in the research course.

**Instrumentation**

Outline the instruments you propose to use (surveys, scales, interview protocols, observation grids, focus group discussions). If instruments have previously been used, identify previous studies and findings related to reliability and validity. If instruments have not previously been used, outline procedures you will follow to develop and test their reliability and validity. In the latter case, a pilot study is nearly essential.

**Data Collection**

Outline the general plan for collecting the data. This may include survey administration procedures, interview or observation procedures. Include an explicit statement covering the field controls to be employed. Provide a general outline of the time schedule you expect to follow. Even.

**Data Analysis**

Specify the procedures you will use, and label them accurately (e.g., ethnography, case study, grounded theory). If coding procedures are to be used, describe in reasonable detail. If you triangulated, carefully explain how you went about it. Communicate your precise intentions and reasons for these intentions to the reader. This helps you and the reader evaluate the choices you made and procedures you followed.

Indicate briefly any analytic tools you will have available and expect to use (e.g., Ethnography, NUDIST, AQUAD, SAS, SPSS, SYSTAT).

Provide a well thought-out rationale for your decision to use the design, methodology, and analyses you have selected.

**Timeline and Budget**

The timeline or time table presents a detailed time plan for the entire research, while the budget presents a detailed budget for the entire research. It breaks your project into small, easily doable steps via backwards calendar. Also helps to put resources aside.

(https://researchwriting.unl.edu/components-research-proposal)

**10. References**

Follow APA guidelines regarding use of references in text and in the reference list. Chalimbana university has adopted the APA system of referencing, so follow that.

Only references cited in the text are included in the reference list; however, exceptions can be found to this rule. For example, some disciplines may require evidence that you are familiar with a broader spectrum of literature than that immediately relevant to your research. In such instances, the reference list may be called a bibliography.

**11. Appendices**

The need for complete documentation generally dictates the inclusion of appropriate appendices in proposals.

The following materials are appropriate for an appendix.

* Verbatim instructions to participants.
* Original scales or questionnaires. If an instrument is copyrighted, permission in writing to reproduce the instrument from the copyright holder should be sought or proof of purchase of the instrument shown be given.
* Interview protocols.
* Sample of informed consent forms.
* Cover letters sent to appropriate stakeholders.
* Official letters of permission to conduct research.

**Summary**

You have come to the end of unit one. The unit has explained what a research proposal is and the principles of a good proposal. It has also outlined the elements of a research proposal and explained how to write an appropriate literature review on a topic of your choice. The unit has ended by explaining how to apply the American Psychological Association (APA) system of referencing in your preparation of the research proposal

# 

# **UNIT 2: WRITING AN APPROPRIATE LITERATURE REVIEW**

1. **Introduction**

Welcome to unit two which deals with how to write an appropriate literature review. When you write a thesis, dissertation, or research paper, you will likely have to conduct a literature review to situate your research within existing knowledge. The literature review gives you a chance to demonstrate your familiarity with the topic and its scholarly context and develop a theoretical framework and methodology for your research. You also position your work in relation to other researchers and theorists and show how your research addresses a gap or contributes to a debate. In addition, you evaluate the current state of research and demonstrate your knowledge of the scholarly debates around your topic.

**Learning Outcomes:**

As you work through this unit you should be able to:

* write an appropriate literature review on a topic of your choice
* apply the American Psychological Association (APA) system of referencing in your preparation of the research proposal

**2.1 What is a Literature Review?**

A literature review is not an annotated bibliography in which you summarise briefly each article that you have reviewed. While a summary of the what you have read is contained within the literature review, it goes well beyond merely summarising professional literature. It focuses on a specific topic of interest to you and includes a critical analysis of the relationship among different works, and relating this research to your work. It may be written as a stand-alone paper or to provide a theoretical framework and rationale for a research study (as the case is for our purpose in this course).

**Step-by-step guide**

Galvan outlines a very clear, step-by-step approach that is very useful to use as you write your review. We have integrated some other tips within this guide, particularly in suggesting different technology tools that you might want to consider in helping you organise your review. In the sections from Step 6-9 what we have included is the outline of those steps exactly as described by Galvan. We have also provided links at the end of this guide to resources that you should use in order to search the literature and as you write your review.

In addition to using the step-by-step guide provided below, we also recommend that you (a) locate examples of literature reviews in linguistics and literature and skim over these to get a feel for what a literature review is and how these are written (b) read over other guides to writing literature reviews so that you see different perspectives and approaches: Some examples are:

1. Review of Literature: University of Wisconsin - Madison The Writing Center.
2. How to write a Literature Review: University of California, Santa Cruz University Library).
3. Information Fluency - Literature Review: Washington & Lee University
4. How to Do a Literature Review. North Carolina A&T State University F.D. Bluford Library.
5. Selected Links to Resources on Writing a Literature Review

**Step 1: Review APA guidelines**

Read through the links provided below on APA guidelines so that you become familiar with the common core elements of how to write in APA style: in particular, pay attention to general document guidelines (e.g. font, margins, spacing), title page, abstract, body, text citations, quotations. You remember in the research course, you dealt with referencing and citation. You could refer to your notes on this topic to refresh your mind.

**Step 2: Decide on a topic**

It will help you considerably if your topic for your literature review is the one on which you intend to do your final report, or is in some way related to the topic of your final report. However, you may pick any scholarly topic.

**Step 3: Identify the literature that you will review**

1. Familiarise yourself with online databases (see UMD library resource links below for help with this), identifying relevant databases in your field of study.
2. Using relevant databases, search for literature sources using Google Scholar and also searching using Furl (search all sources, including the Furl accounts of other Furl members). Some tips for identifying suitable literature and narrowing your search:
3. Start with a general descriptor from the database thesaurus or one that you know is already a well defined descriptor based on past work that you have done in this field. You will need to experiment with different searches, such as limiting your search to descriptors that appear only in the document titles, or in both the document title and in the abstract.
4. Redefine your topic if needed: as you search you will quickly find out if the topic that you are reviewing is too broad. Try to narrow it to a specific area of interest within the broad area that you have chosen. It is a good idea, as part of your literature search, to look for existing literature reviews that have already been written on this topic.
5. As part of your search, be sure to identify landmark or classic studies and theorists as these provide you with a framework/context for your study.
6. Import your references into your RefWorks account (see: Refworks Import Directions for guide on how to do this from different databases). You can also enter references manually into RefWorks if you need to.

**Step 4: Analyse the Literature**

Once you have identified and located the articles for your review, you need to analyse them and organise them before you begin writing:

1. Overview the articles: Skim the articles to get an idea of the general purpose and content of the article (focus your reading here on the abstract, introduction and first few paragraphs, the conclusion of each article).

Tip: as you skim the articles, you may want to record the notes that you take on each directly into RefWorks in the box for User 1. You can take notes onto note cards or into a word processing document instead or as well as using RefWorks, but having your notes in RefWorks makes it easy to organise your notes later.

1. Group the articles into categories (e.g. into topics and subtopics and chronologically within each subtopic). Once again, it’s useful to enter this information into your RefWorks record. You can record the topics in the same box as before (User 1) or use User 2 box for the topic(s) under which you have chosen to place this article.
2. Take notes:
3. Decide on the format in which you will take notes as you read the articles (as mentioned above, you can do this in RefWorks. You can also do this using a Word Processor, or a concept mapping programme like Inspiration (free 30 trial download), a data base programme (e.g. Access or File Maker Pro), in an Excel spreadsheet, or the “old-fashioned” way of using note cards. Be consistent on how you record notes.
4. Define key terms: look for differences in the way key terms are defined (note these differences).
5. Note key statistics that you may want to use in the introduction to your review.
6. Select useful quotes that you may want to include in your review. Important: If you copy the exact words from an article, be sure to cite the page number as you will need this should you decide to use the quote when you write your review (as direct quotes must always be accompanied by page references). To ensure that you have quoted accurately (and to save time in note taking), if you are accessing the article in a format that allows this, you can copy and paste using your computer “edit --> copy --> paste” functions.

Note: although you may collect a large number of quotes during the note taking phase of your review, when you write the review, use quotes very sparingly. The rule to follow is to quote only when some key meaning would be lost in translation if you were to paraphrase the original author’s words, or if using the original words adds special emphasis to a point that I am making.

1. Note emphases, strengths and weaknesses: Since different research studies focus on different aspects of the issue being studied, each article that you read will have different emphases, strengths, and weaknesses. Your role as a reviewer is to evaluate what you read, so that your review is not a mere description of different articles, but rather a critical analysis that makes sense of the collection of articles that you are reviewing. Critique the research methodologies used in the studies, and distinguish between assertions (the author’s opinion) and actual research findings (derived from empirical evidence).
2. Identify major trends or patterns: As you read a range of articles on your topic, you should make note of trends and patterns over time as reported in the literature. This step requires you to synthesise and make sense of what you read, since these patterns and trends may not be spelled out in the literature, but rather become apparent to you as you review the big picture that has emerged over time. Your analysis can make generalisations across a majority of studies, but should also note inconsistencies across studies and over time.
3. Identify gaps in the literature, and reflect on why these might exist (based on the understandings that you have gained by reading literature in this field of study). These gaps will be important for you to address as you plan and write your review.
4. Identify relationships among studies: note relationships among studies, such as which studies were landmark ones that led to subsequent studies in the same area. You may also note that studies fall into different categories (categories that you see emerging or ones that are already discussed in the literature). When you write your review, you should address these relationships and different categories and discuss relevant studies using this as a framework.
5. Keep your review focused on your topic: make sure that the articles you find are relevant and directly related to your topic. As you take notes, record which specific aspects of the article you are reading are relevant to your topic (as you read you will come up with key descriptors that you can record in your notes that will help you organise your findings when you come to write up your review). If you are using an electronic form of note taking, you might note these descriptors in a separate field
6. Evaluate your references for currency and coverage: Although you can always find more articles on your topic, you have to decide at what point you are finished with collecting new resources so that you can focus on writing up your findings. However, before you begin writing, you must evaluate your reference list to ensure that it is up to date and has reported the most current work. Typically, a review will cover the last five years, but should also refer to any landmark studies prior to this time if they have significance in shaping the direction of the field. If you include studies prior to the past five years that are not landmark studies, you should defend why you have chosen these rather than more current ones.

**Step 5: Summarise the literature in table or concept map format**

1. Galvan (2006) recommends building tables as a key way to help you overview, organise, and summarise your findings, and suggests that including one or more of the tables that you create may be helpful in your literature review. If you do include tables as part of your review each must be accompanied by an analysis that summarises, interprets and synthesises the literature that you have charted in the table. You can plan your table or do the entire summary chart of your literature using a concept map (such as using Inspiration)
2. You can create the table using the table feature within Microsoft Word, or can create it initially in Excel and then copy and paste/import the Excel sheet into Word once you have completed the table in Excel. The advantage of using Excel is that it enables you to sort your findings according to a variety of factors (e.g. sort by date, and then by author; sort by methodology and then date).
3. Examples of tables that may be relevant to your review:
4. Definitions of key terms and concepts.
5. Research methods
6. Summary of research results

**Step 6: Synthesize the literature prior to writing your review**

Using the notes that you have taken and summary tables, develop an outline of your final review. The following are the key steps as outlined by Galvan (2006: 71-79)

1. Consider your purpose and voice before beginning to write. In your final report, your literature review should demonstrate your command of your field of study and/or establishing context for a study that you have done.
2. Consider how you reassemble your notes: plan how you will organise your findings into a unique analysis of the picture that you have captured in your notes.

Important: A literature review is not series of annotations (like an annotated bibliography). Galvan (2006:72) captures the difference between an annotated bibliography and a literature review very well: “...in essence, like describing trees when you really should be describing a forest. In the case of a literature review, you are really creating a new forest, which you will build by using the trees you found in the literature you read.”

1. Create a topic outline that traces your argument: first explain to the reader your line or argument (or thesis); then your narrative that follows should explain and justify your line of argument. You may find the programme Inspiration useful in mapping out your argument (and once you have created this in a concept map form, Inspiration enables you to convert this to a text outline merely by clicking on the ‘outline’ button). This can then be exported into a Microsoft Word document.
2. Reorganise your notes according to the path of your argument
3. Within each topic heading, note differences among studies.
4. Within each topic heading, look for obvious gaps or areas needing more research.

(vii) Plan to describe relevant theories.

(viii) Plan to discuss how individual studies relate to and advance theory

1. Plan to summarise periodically and, again near the end of the review
2. Plan to present conclusions and implications
3. Plan to suggest specific directions for future research near the end of the review
4. Flesh out your outline with details from your analysis

**Step 7: Writing the review**

Galvan (2006: 81-90) submits the following

1. Identify the broad problem area, but avoid global statements
2. Early in the review, indicate why the topic being reviewed is important
3. Distinguish between research finding and other sources of information
4. Indicate why certain studies are important
5. If you are commenting on the timeliness of a topic, be specific in describing the time frame
6. If citing a classic or landmark study, identify it as such

(vii) If a landmark study was replicated, mention that and indicate the results of the replication

(viii) Discuss other literature reviews on your topic

(ix) Refer the reader to other reviews on issues that you will not be discussing in details

1. Justify comments such as, ‘no studies were found.’
2. Avoid long lists of nonspecific references
3. If the results of previous studies are inconsistent or widely varying, cite them separately
4. Cite all relevant references in the review section of the dissertation.

**Step 8: Developing a coherent essay (Galvan, 2006: 91-96)**

1. If your review is long, provide an overview near the beginning of the review
2. Near the beginning of a review, state explicitly what will and will not be covered
3. Specify your point of view early in the review: this serves as the thesis statement of the review.
4. Aim for a clear and cohesive essay that integrates the key details of the literature and communicates your point of view (a literature is not a series of annotated articles).
5. Use subheadings, especially in long reviews
6. Use transitions to help trace your argument

(vii) If your topic teaches across disciplines, consider reviewing studies from each discipline separately

(viii) Write a conclusion for the end of the review: Provide closure so that the path of the argument ends with a conclusion of some kind.

(ix) Check the flow of your argument for coherence.

(Galvan, 2006: 91-96)

***Activity 2.1***

*1. Write a detailed literature review for your research topic and submit to your supervisor for scrutiny.*

*2. Using the guide given above, write a draft research proposal for your research topic. Make sure you seek guide from your supervisor or course lecturer in the process.*

**Summary**

You have come to the end of unit two in which we dealt with the process of proposal writing. By now your proposal should be almost ready. If you have challenges make sure you consult your supervisor or course lecturer. If you have successfully done the two activities in this unit, then you are heading in the right direction. Well done!

# **UNIT 3: WRITING A RESEARCH REPORT**

**3.0 Introduction**

Welcome to last unit of this course. By now you have collected and analysed the data for your study. Now you are ready to write your report. This unit takes you through the process of report writing by focusing on the main parts of the research report.

A research report is a result of a scientific investigation, a brief explanation of the research conducted. A research report is used to tell your instructor or fellow scientists about the process of investigation, your findings and the importance of your research work. To write a clear research report, you should adhere to the guidelines of academic writing. Proper research report structure ensures that the information is interpreted in the right manner.

**Learning Outcomes**

As you work through this unit, you should be able to:

* compile your research report
* analyse and present the data or findings of your study with ease
* write a sound conclusion and recommend future actions to relevant bodies based on the findings of your study
* complete and hand in your research report to the university (supervisor) on time.

## **3.1 Main Parts of a Dissertation**

The following are the main components of a research report.

### **3.1.1 Introduction**

The introduction provides the key question that the researcher is attempting to answer and a review of any literature that is relevant. In addition, the researcher will provide a rationale for why the research is important and will attempt to answer the key question. The introduction should summarise the state of the key question following the completion of the research. For example, are there any important issues or questions still open?

The introduction leads the reader from a general subject area to a particular topic of inquiry. It establishes the scope, context, and significance of the research being conducted by summarising current understanding and background information about the topic, stating the purpose of the work in the form of the research problem supported by a hypothesis or a set of questions, explaining briefly the methodological approach used to examine the research problem, highlighting the potential outcomes your study can reveal, and outlining the remaining structure and organisation of the paper.

Think of the introduction as a mental road map that must answer for the reader these four questions:

* What was I studying?
* Why was this topic important to investigate?
* What did we know about this topic before I did this study?
* How will this study advance new knowledge or new ways of understanding?

According to Reyes, there are three overarching goals of a good introduction:

1. ensure that you summarise prior studies about the topic in a manner that lays a foundation for understanding the research problem;
2. explain how your study specifically addresses gaps in the literature, insufficient consideration of the topic, or other deficiency in the literature; and,
3. note the broader theoretical, empirical, and/or policy contributions and implications of your research.

A well-written introduction is important because, quite simply, you never get a second chance to make a good first impression. The opening paragraphs of your paper will provide your readers with their initial impressions about the logic of your argument, your writing style, the overall quality of your research, and, ultimately, the validity of your findings and conclusions. A vague, disorganised, or error-filled introduction will create a negative impression, whereas, a concise, engaging, and well-written introduction will lead your readers to think highly of your analytical skills, your writing style, and your research approach. All introductions should conclude with a brief paragraph that describes the organisation of the rest of the paper.

Think of the structure of the introduction as an inverted triangle of information that lays a foundation for understanding the research problem. Organise the information so as to present the more general aspects of the topic early in the introduction, then narrow your analysis to more specific topical information that provides context, finally arriving at your research problem and the rationale for studying it and, whenever possible, a description of the potential outcomes your study can reveal.

***Activity 3.1***

*Go through the introduction of your research report and ensure that it is in line with what has been explained above. Make corrections where necessary.*

### **3.1.2 Literature Review**

Many researchers struggle when it comes to writing literature review for their research paper. A literature review is a comprehensive overview of all the knowledge available on a specific topic till date. When you decide on a research topic, usually the first step you take in the direction of conducting research is to learn more about the previous research published on the topic, and this eventually translates into literature review when you write your research paper. Literature review is one of the pillars on which your research idea stands since it provides context, relevance, and background to the research problem you are exploring.

Literature reviews can be categorised as experimental and theoretical. Experimental literature review basically refers to surveying all the information available on a particular topic and critically analysing the gaps that need to be worked upon. In this sense, it essentially forms the first experiment of any research project. The more extensive the review, the more precise and systematic the research project will be. Therefore, it is one of the most critical parts of one’s research.

Theoretical literature review essentially involves two steps:

1. Surveying and critically reading the existing literature: this step is commonly referred to as experimental literature review.
2. Summarising and actually penning down the gist of your review in an organised manner: this is known as theoretical review.

Every research report begins with an introduction to the topic of research. This forms the literature review for the study. The main purpose of the review is to introduce the readers to the need for conducting the said research. A literature review should begin with a thorough literature search using the main keywords in relevant online databases such as Google Scholar, PubMed, etc. Once all the relevant literature has been gathered, it should be organised as follows:

1. Background literature about the broad research topic to introduce the readers to the field of study.
2. Recent progress on the study topic which can be organised thematically or chronologically. Ideally, separate themes should be discussed in a chronological manner to describe how research in the field has evolved over time and to highlight the progress in the field.
3. The review should include a comparison and contrast of different studies. Discussing the controversial aspects helps to identify the main gaps that need to be worked upon. This is essential for defining the problem statement of the study and highlighting the significance of the research under question.
4. Once a problem statement has been defined, the strengths and pitfalls of other studies that have tackled the problem statement should be discussed. This is important for outlining the need and novelty of the research.

A literature review is a piece of discursive prose, not a list describing or summarising one piece of literature after another. It is usually a bad sign to see every paragraph beginning with the name of a researcher. Instead, organise the literature review into sections that present themes or identify trends, including relevant theory. You are not trying to list all the material published, but to synthesise and evaluate it according to the guiding concept of your thesis or research question.

The chapter for literature review should end with a summary of what you have learnt from the literature review and show the gap in knowledge which justifies the need to undertake your present study.

### **3.1.3 Research Methodology**

The methodology section of the research report is arguably the most important for two reasons. First it allows readers to evaluate the quality of the research and second, it provides the details by which another researcher may replicate and validate the findings.

Typically, the information in the methodology section is arranged in chronological order with the most important information at the top of each section.

Ideally the description of the methodology does not force you to refer to other documents; however, if the author is relying on existing methods, they will be referenced.

The methods section describes actions to be taken to investigate a research problem and the rationale for the application of specific procedures or techniques used to identify, select, process, and analyse information applied to understanding the problem, thereby, allowing the reader to critically evaluate a study’s overall validity and reliability. The methodology section of a research paper answers two main questions: How was the data collected or generated? And, how was it analysed? The writing should be direct and precise and always written in the past tense.

**Importance of a Good Methodology Section**

You must explain how you obtained and analysed your results for the following reasons:

* Readers need to know how the data was obtained because the method you chose affects the results and, by extension, how you interpreted their significance in the discussion section of your paper.
* Methodology is crucial for any branch of scholarship because an unreliable method produces unreliable results and, as a consequence, undermines the value of your analysis of the findings.
* In most cases, there are a variety of different methods you can choose to investigate a research problem. The methodology section of your paper should clearly articulate the reasons why you have chosen a particular procedure or technique.
* 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 multiple choice questionnaire, readers need to know that it offered your respondents a reasonable range of answers to choose from.
* The method must be appropriate to fulfilling the overall aims of the study. For example, you need to ensure that you have a large enough sample size to be able to generalise and make recommendations based upon the findings.
* The methodology should discuss the problems that were anticipated and the steps you took to prevent them from occurring. For any problems that do arise, you must describe the ways in which they were minimised or why these problems do not impact in any meaningful way your interpretation of the findings.
* In the social and behavioural sciences, it is important to always provide sufficient information to allow other researchers to adopt or replicate your methodology. This information is particularly important when a new method has been developed or an innovative use of an existing method is utilised.

The introduction to your methodology section should begin by restating the research problem and underlying assumptions underpinning your study. This is followed by situating the methods you used to gather, analyse, and process information within the overall “tradition” of your field of study and within the particular research design you have chosen to study the problem. If the method you choose lies outside of the tradition of your field (i.e., your review of the literature demonstrates that the method is not commonly used), provide a justification for how your choice of methods specifically addresses the research problem in ways that have not been utilised in prior studies.

The remainder of your methodology section should describe the following:

* Decisions made in selecting the data you have analysed or, in the case of qualitative research, the subjects and research setting you have examined,
* Tools and methods used to identify and collect information, and how you identified relevant variables,
* The ways in which you processed the data and the procedures you used to analyse that data, and
* The specific research tools or strategies that you utilised to study the underlying hypothesis or research questions.

In addition, an effectively written methodology section should:

* Introduce the overall methodological approach for investigating your research problem. Is your study qualitative or quantitative or a combination of both (mixed method)? Did you adopt a special approach, such as action research, or a more neutral stance?
* Indicate how the approach fits the overall research design. Your methods for gathering data should have a clear connection to your research problem. In other words, make sure that your methods actually address the problem. One of the most common deficiencies found in research papers is that the proposed methodology is not suitable to achieving the stated objective of the research paper.
* Describe the specific methods of data collection you used, such as, surveys, interviews, questionnaires, observation, archival research. If you are analysing existing data, such as a data set or archival documents, describe how it was originally created or gathered and by whom. Also be sure to explain how older data is still relevant to investigating the current research problem.
* Explain how you analysed your results. Did you use statistical analysis? Did you use specific theoretical perspectives to help you analyse a text or explain observed behaviours? Describe how you obtained an accurate assessment of relationships, patterns, trends, distributions, and possible contradictions found in the data.
* Provide background and a 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.
* Provide a justification for subject selection and sampling procedure. For instance, if you conducted interviews, how did you select the sample population? If you analysed texts, which texts have you chosen, and why? If you are using statistics, why is this set of data being used? If other data sources exist, explain why the data you chose is most appropriate to addressing the research problem.
* Provide a justification for case study selection. A common method of analysing research problems in the social sciences is to analyse specific cases. These can be a person, place, event, phenomenon, or other type of subject of analysis that are either examined as a singular topic of in-depth investigation or multiple topics of investigation studied for the purpose of comparing or contrasting findings. In either method, you should explain why a case or cases were chosen and how they specifically relate to the research problem.
* Describe potential limitations. Are there any practical limitations that could have affected your data collection? What attempts did you make to control potential confounding variables and errors?

Note the following:

Once you have written all of the elements of the methods section, subsequent revisions should focus on how to present those elements as clearly and as logically as possible. The description of how you prepared the study; the research problem, how you gathered the data, and the protocol for analysing the data should be organised chronologically. For clarity, when a large amount of detail must be presented, information should be presented in sub-sections according to topic. If necessary, consider using appendices for raw data.

If you are conducting a qualitative analysis of a research problem, the methodology section generally requires a more elaborate description of the methods used as well as an explanation of the processes applied to gathering and analysing of data than is generally required for studies using quantitative methods. Because you are the primary instrument for generating the data (e.g., through interviews or observations), the process for collecting that data has a significantly greater impact on producing the findings. Therefore, qualitative research requires a more detailed description of the methods used.

If your study involves interviews, observations, or other qualitative techniques involving human subjects, you may be required to obtain approval from the university’s Office for the Protection of Research Subjects before beginning your research. You must include a statement in your methods section that you received official endorsement and adequate informed consent from the office and that there was a clear assessment and minimisation of risks to participants and to the university. This statement informs the reader that your study was conducted in an ethical and responsible manner. In some cases, the approval notice is included as an appendix to your paper.

***Activity 3.2***

*Revise your methodology section; check your study design, sampling techniques, data collection instruments and data analysis among others. Are these aspects clearly articulated? For instance, did you adopt an appropriate study design, sampling techniques, research instruments, etc?*

### **3.1.4 Presentation of Results (Data)**

In longer research papers, the results section contains the data and perhaps a short introduction.

A good place to start for your results section, is to restate the objectives of your research paper, so that your readers can refocus on the core of your academic paper. So far in your research paper, your readers covered the introduction, literature review, research methodology and now it is the time and place to bring their attention back to the purpose. A short paragraph is sufficient to restate your paper’s purpose.

Then, indicate that this is the chapter of your research paper where you present and explain the data you have collected or gathered and the findings of your data analysis and interpretation.

The academic writing should be clear, impartial, and objective. Each result, which confirms or refutes your assumptions, should be noted in an unbiased manner to increase the credibility of your study.

The results section gives you the opportunity to:

* summarise the collected data in the form of descriptive statistics and
* report on the findings from relevant and appropriate inferential statistical analyses and interpretation that are aimed at answering your academic article’s research questions or supporting your hypotheses, and show your research significance.

Use sub-sections. These sub-sections or divisions can be based on:

* Your research questions, hypotheses or models, or
* The statistical tests you have conducted.

If you have used statistical analyses in your study, and found answers to your research questions, report those facts in relation to your question.

A clear, coherent presentation of your research paper’s results should exhibit logical explanations without bias.

While defining the section of your research’s outcomes area, it is important to keep in mind that the research results do not prove or demonstrate anything.

In any case, your results:

* help with the understanding of a research problem from within,
* assist in dividing the research problem into different parts and concepts,
* add to the exploration of an issue from various vantage points.

**Summarising Key Findings in Your Results Section**

In a coherent results presentation, you should:

* offer summarising notes of your outcomes and
* save the explanations of your key discoveries for your Discussion section.

For example, in your empirical analysis you notice an uncommon correlation between two variables. In the Results section, it is okay to bring up this outcome, however, posing new hypotheses for this uncommon result should be presented in the Discussion section.

**Using Tables and Figures to Highlight Research Results**

A valuable study should focus on using tables, figures and/or graphs to:

* provide accurate views about the research findings,
* summarise the analysis,
* help with the interpretation of these outcomes, and
* offer better understanding of the overall study.

Instead of using only descriptive text for your study, consider other visual ways and representations that improve the academic writing of your research paper.

Figures, tables and graphs are useful methods for gathering a great deal of information into one place that can then be mentioned in the content of your article. If any research question or hypothesis is confirmed by your data and analysis, you can point to a table or figure that illustrates your finding.

When you present tables or figures in your results section, make sure to describe at least some of the data included in these visual representations so that readers can clearly understand how the table works and what interpretations can be concluded from them.

You can also use appendices if you have many other helpful figures or tables that cannot be fully included in the text of your academic article.

By using a helpful combination of text, figures, and tables, you, as Author and Academic, can use this section to effectively share your studies’ findings with the scientific community.

**Presenting Research Findings and Statistical Significance**

A systematic description of your research results and a correct data analysis and interpretation are related to statistical significance, as they help avoid speculations or misinterpretations by readers of your academic article.

In a valuable research paper:

* data must be directly and clearly presented,
* statistical tests need to be used, and
* the figures obtained and included in the study have to be explained.

You need to report the research results with enough details so that readers can see which statistical analyses were conducted and validated to justify or disprove your hypotheses.

Even if not all of your research results are confirmed, you should not ignore them. These negative results that do not support a particular hypothesis should be noted in the results section, and then explained in the Discussion section.

Writing a Research Results section that do not address the negative results, invalidates the research paper and does not reflect appropriate academic writing.

**Research Results Comparison with Similar Academic Articles**

However, there are instances when it is appropriate to compare or contrast your results with findings from previous and similar studies. For example:

* Similar to Author [Year], one of the findings of this study is the strong relationship between…
* While Author [Year] found an indirect relationship between, our study highlighted ….
* Key Aspects for Your Research Results Section
* For a good structure and organisation of your research, keep in mind these aspects:
* Start your research results section by restating the purpose of your research, so that your readers can re-focus on core of your academic article
* Include helpful and quality tables, figures, graphs that can synthesise your research
* Make sure you include details about your data analysis and interpretation, as well as statistical significance tests
* Report the statistical insignificant research findings for your academic article’s credibility
* Use the past tense when describing your research results
* Do not use vague terms and be as concise as possible when you are reporting your research findings
* Conclude your section with a short paragraph that summarises your study’s key outcomes.

**Aspects to focus on when writing your research results section**

This is the core of the paper. Goals are as follows:

* Factual statements supported by evidence. Short and sweet without excess words
* Present representative data rather than endlessly repetitive data
* Discuss variables only if they had an effect (positive or negative)
* Use meaningful statistics
* Avoid redundancy. If it is in the tables or captions you may not need to repeat it

Present the results of the paper, in logical order, using tables and graphs as necessary. Explain the results and show how they help to answer the research questions posed in the Introduction. Evidence does not explain itself; the results must be presented and then explained. Avoid presenting results that are never discussed; presenting results in chronological order rather than logical order; ignoring results that do not support the conclusions;

Number tables and figures separately beginning with 1 (i.e. Table 1, Table 2, Figure 1, etc.).

You must refer in the text to each figure or table you include in your paper.

Tables generally should report summary-level data, such as means ± standard deviations, rather than all your raw data. A long list of all your individual observations will mean much less than a few concise, easy-to-read tables or figures that bring out the main findings of your study.

Only use a figure (graph) when the data lend themselves to a good visual representation. Avoid using figures that show too many variables or trends at once, because they can be hard to understand (<https://writingcenter.gmu.edu/guides/imrad-results-discussion>).

### **Summary**

You have come to the end of unit three. The unit has outlined how to compile your research report and how to analyse and present the data or findings of your study with ease. It has further explained how to write a sound conclusion and recommend future actions to relevant bodies based on the findings of your study.

# **UNIT 4: DISCUSSION OF FINDINGS**

**4.0 Introduction**

Unit four presents the discussion section of the study. The discussion section is where the results of the study are interpreted and evaluated against the existing body or research literature. In addition, should there be any anomalies found in the results, this is where the authors will point them out. Lastly the discussion section will attempt to connect the results to the bigger picture and show how the results might be applied.

**Learning Outcomes**

As you work through this unit, you should be able to:

* evaluate the research results against the existing body or research literature
* connect the results of your study to the bigger picture
* show how the results might be applied.

## **4.1 Discussing the Findings**

The discussion section is where you delve into the meaning, importance and relevance of your results. It should focus on explaining and evaluating what you found, showing how it relates to your literature review and research questions, and making an argument in support of your overall conclusion. There are many different ways to write this section, but you can focus your discussion around four key elements:

* Interpretations: what do the results mean?
* Implications: why do the results matter?
* Limitations: what can’t the results tell us?
* Recommendations: what practical actions or scientific studies should follow?

For our purpose in this course, the results and discussion will be combined into one chapter. This is chapter four of your research report.

Summarise your key findings. Do not just repeat all the data you have already reported – aim for a clear statement of the overall result that directly answers your main research question.

Examples

* The results indicate that…
* The study demonstrates a correlation between…
* The analysis confirms…
* The data suggests that…

## **4.2 Give your interpretations**

The meaning of the results might seem obvious to you, but it is important to spell out their significance for the reader and show exactly how they answer your research questions.

The form of your interpretations will depend on the type of research, but some typical approaches to interpreting the data include:

* Identifying correlations, patterns and relationships among the data
* Contextualising your findings within previous research and theory
* Explaining unexpected results and evaluating their significance
* Considering possible alternative explanations and making an argument for your position.

You can organise your discussion around key themes, hypotheses or research questions. You can also begin by highlighting the most significant or unexpected results.

If you can afford, take your paper for proof reading. What can proofreading do for your paper? Scriber editors not only correct grammar and spelling mistakes, but also strengthen your writing by making sure your paper is free of vague language, redundant words and awkward phrasing.

## **4.3 Discuss the implications**

As well as giving your own interpretations, make sure to relate your results back to the scholarly work that you surveyed in the literature review. The discussion should show how your findings fit with existing knowledge, what new insights they contribute, and what consequences they have for theory or practice. Ask yourself these questions:

* Do your results agree with previous research? If so, what do they add to it?
* Are your findings very different from other studies? If so, why might this be?
* Do the results confirm or challenge existing theories?
* Are there any practical implications?

Your overall aim is to show the reader exactly what your research has contributed and why they should care.

## **4.4 Summary, Conclusion and Recommendations**

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 the main topics covered or a re-statement of your research problem, but a synthesis of key points and, if applicable, where you recommend new areas for future research. For most college-level research papers, one or two well-developed paragraphs is sufficient for a conclusion, although in some cases, three or more paragraphs may be required.

### **4.4.1 Importance of a Good Conclusion**

A well-written conclusion provides you with important opportunities to demonstrate to the reader your understanding of the research problem. 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 findings in your analysis or result section or by noting important or unexpected implications applied to practice.
2. Summarising your thoughts and conveying the larger significance of your study. The conclusion is an opportunity to succinctly answer (or in some cases, to re-emphasise) the "So What?" question by placing the study within the context of how your research advances past research about the topic.
3. Identifying how a gap in the literature has been addressed. The conclusion can be where you describe how a previously identified gap in the literature (described in your literature review section) has been filled by your research.
4. Demonstrating the importance of your ideas. Do not be shy. The conclusion offers you the opportunity to elaborate on the impact and significance of your findings.
5. 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 or contextualizing the research problem based on the results of your study.

### **4.4.2 Acknowledge the limitations**

Even the best research has some limitations, and acknowledging these is important to demonstrate your credibility. Limitations are not about listing your errors, but about providing an accurate picture of what can and cannot be concluded from your study.

Limitations might be due to your overall research design, specific methodological choices, or unanticipated obstacles that emerged during the research process. You should only mention limitations that are directly relevant to your research objectives, and evaluate how much impact they had on achieving the aims of the research.

For example, if your sample size was small or limited to a specific group of people, note that this limits its generalisability. If you encountered problems when gathering or analysing data, describe these and explain how they influenced the results.

After noting the limitations, you can reiterate why the results are nonetheless valid for the purpose of answering your research questions.

Examples

* The generalisability of the results is limited by…
* The reliability of this data is impacted by…
* Due to the lack of available data, the results cannot confirm…
* The methodological choices were constrained by…
* It is beyond the scope of this study to…

**State your recommendations**

Based on the discussion of your results, you can make recommendations for practical implementation or further research.

Suggestions for further research can lead directly from the limitations. Do not just state that more studies should be done – give concrete ideas for how future work can build on areas that your own research was unable to address.

* Further research is needed to establish…
* Future studies should take into account…

### **4.4.3 References**

This section provides a list of each author and paper cited in the research report. Any fact, idea, or direct quotation used in the report should be cited and referenced. Remember to follow APA guidelines regarding use of references in text and in the reference list.

### **4.4.4 Appendices**

In this section, present information which may be of interest but not critical to the study. This information usually includes research instruments, copies of letters (respondents and researcher’s introductory letter) and other important documents.

***Activity 4.1***

*Go through your references of your dissertation and make sure it is written in line with American Psychological Association system of referencing.*

**Summary**

You have come to the end of unit 4, which provided you with tips on how to package your research report. You can now go ahead and compile your research report. Do not hesitate to consult your supervisor in the process. We have come to the end of the course; you are now a seasoned researcher. Congratulations!

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