SOCIAL RESEARCH METHODS SERIES

PROPOSAL WRITING GUIDE

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Kenya Projects Organization (KENPRO) is a membership organization whose general objective is to provide Projects Management, Research, IT and Publishing support solutions to individuals and organizations. The organization provides support services to college and university students, university faculty members and Non Governmental Organizations (NGOs).

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FOREWORD

Carrying out educational and social research requires not only patience, persistence, pursuance and passion but also specific knowledge, skills and experience. It is not enough to have gone through lessons of research methods to be able to sustain a research process! This proposal writing guide is a product of a decade of dedicated research in the fields of education and social sciences by the author. It is based on knowledge acquired over years and everyday experience in guiding and mentoring students of research in Colleges and Universities in Kenya and around the world. The guide is structured according to the classical structure of research proposals used in most institutions of higher learning. The onset of the guide briefly introduces some selected parts of preliminaries including cover page, declaration, abstract, abbreviations and acronyms and table of contents. Other parts follow traditional research proposal writing outline which consists of three basic chapters, namely Chapter One: Introduction; Chapter Two: Review of Related Literature and Chapter Three: Research Design and Methodology. Further, Chapter Four presents Referencing Styles with emphasis on APA citation style. The last parts cover References and Appendices. Owing to the challenges related to teaching and conducting research, this guide provides a practical option not only to the students of research but also to teachers of education and social research methods and, practitioners.

Dr. Magdalene Ndimba
Coordinator
The Catholic University of Eastern Africa

DEDICATION

I dedicate this book to my beloved wife Tracy Jepkoech and our brilliant son Austin Wanjohi Muriithi

ACKNOWLEDGMENTS

My gratitude to the *Summum Bonum*, the Highest Good; the source of all goodness for His grace that consoles and provides the presence of mind and health of body for us the mere mortals. My vote of thanks also goes to the significant others including but not limited to my immediate family members for their moral support and my research and projects associates at KENPRO (Rodgers Kiprotich, Kenneth Mutuma, Shaban Ramadhan and Lucy Miriti) for their contribution. I also appreciate particular contribution made by George Gitau Chira in gathering some resources and Francis Mwangi for copy editing the guide. I also thank my friends and students of research for their interactive intellectual engagement during the course of my academic venture and practice in the last one decade.

God bless!

TABLE OF CONTENTS

RESEARCH PROPOSAL PRELIMINARIES

Outline

Fundamentally, research proposal preliminaries consist of various parts. Various universities and colleges may have their own provisions. However, for the purpose of this guide, the following parts are briefly highlighted: cover page, declaration, abstract, abbreviations and acronyms and table of contents. Dedication and Acknowledgement are not included in research proposal writing stage. These parts are reflected upon completing the entire research project.

Cover Page

The cover page ordinarily consists of the title, student's name, student's registration number, department, caption of the degree for which the proposal is written (e.g., *A research proposal submitted in partial fulfillment of the degree of Master of Education in the School of Education*), university name and date.

Research title or research problem

Before embarking on a study journey, there is a need to succinctly identify an area of study you wish to investigate. Identifying a research problem is the first and foremost step that every researcher has to undertake. At times, it becomes rather difficult for an inexperienced student of research to conceptualize a research problem if it is not based on social need. In general, a research problem should be understood as some difficulty, unclear situation which a researcher experiences in practical or theoretical context and wants to obtain a tangible explanation,

clarification or offer solution to it. For students, this problem may be as a result of a theoretical encounter in the area of specialization or based on experience. As such, before embarking on any research, you should identify the major research area of your interest.

Sources of Research Problem

How do I identify an area of study? The following are the major sources of research problem:

- Your own experience or the experience of others may be a source of problem supply,
- Scientific literature: you may read about certain findings and notice that a certain field was not covered or there is knowledge gap that you need to fill in. This could lead to a research problem,
- Theories could be another source. Shortcomings in theories could be researched,
- The sources of research problem thus can give you the direction of stating the research problem.

Once you are clear about your source of research problem, you need to narrow the area down by selecting a particular topic. This should be done after going through most of the literature related to the area. The topic should further be narrowed down to a specific researchable problem.

A good research title or problem should essentially consist of the following components:

- *Target population.* This may be an individual, community or an organization to whom the problem could be attributed. These occupy a certain geographical area. For instance, teacher and parental factors affecting students performance in secondary schools in Embu Municipality. In this study, there are individuals (parents, teachers, students), there are institutions (private secondary schools), and there is location of study (Embu Municipality).
- *General objective for pursuing the problem*. There must be a clear general objective of the study. Example: To find out teacher and parental factors affecting students' academic performance in private secondary schools in Embu Municipality.
- *Variables (dependent and independent).* A good research title must bring out both dependent and independent variables. E.g., Teacher and parental factors (*independent variables*) affecting students' academic performance (*dependent variable*) in private secondary schools in Embu Municipality.

Kerlinger (1999) identifies three criteria of a good research problem:

- The problem should be concerned with a relation between two or more variables. However there are exceptions to this rule depending on the type of study being undertaken,

- It should be stated clearly and unambiguously in question,
- It should be open to empirical testing.

Specifically, identifying an area of study should be guided by the following:

- The research area should be of interest to the researcher (could be in the field of one's specialization),
- The research area is reachable – measurable and sample is accessible,
- The research area is manageable in size (given your time and resources),
- The research area is within your range of competencies and skills,
- Research area makes a contribution to knowledge,
- Research area has a theoretical basis.

Declaration

The researcher must declare in writing the originality of the work.

Example

I declare that this research proposal is my original work and has not been presented in any other university or /institution for consideration. The proposal has been complemented by referenced sources duly acknowledged. Where text, data (including spoken words), graphics, pictures or tables have been borrowed from other sources, including the Internet, these are specifically accredited and references cited in accordance with anti-plagiarism regulation (Kenyatta University, 2013).

Signature _____ Date _____

Name:
Reg. No.:

Supervisors:

This research proposal has been submitted for examination with our/my approval as university supervisor(s).

Signature _____ Date _____

Name:
Department:

Signature _____ Date _____

Name:
Department:

Abstract

An abstract is a summary of the key aspects of the research proposal.

Research proposal abstract should have the following key components:

- The purpose of the study,
- Specific objectives guiding the study,
- Research design,
- Target population,
- Sample and sampling procedures,
- Data collection instruments and
- Data analysis procedure.

Key points to note about research abstract:

- Essentially, an abstract should be between 150 and 250 words. However, it can also take up to 500 words,
- Should be double spaced (APA provisions – 6th Ed.),
- Should not have paragraphs (one block paragraph),
- Should not contain any in-text referencing and
- Should not be indented (Angeli, Wagner, Lawrick, Moore, Anderson, Soderlund, & Brizee, 2010).

Example

The issues surrounding youth are as old as humanity. However, the issues facing youth in the 21st Century are far much different from issues of youth in the yester centuries. The main purpose of this study is not only to unpack the key issues facing youth in the 21st century in a developing economy's perspective, but also to suggest the strategies that can be adopted to address these issues.

Survey research design will be used in the study. The target population will include youth and parents in Ngong', a town situated in the Southwest of Nairobi in Kenya. The sample size will include six hundred and thirty (n=630) youth and thirty two (n=32) parents. Random sampling procedure will be used to select youth while purposive sampling procedure will be used to select the parents and guardians. The data collection methods will include a questionnaire and Focus Group Discussion (FGD). The collected data will be analyzed using both quantitative and qualitative approaches. Quantitative data from the youth questionnaire will be analyzed with the help of IBM SPSS and presented in simple frequencies and percentages. Tables and figures will be used to summarize data. Qualitative data collected using FGD will be analyzed using a qualitative data analysis technique and reported in narrative form (Wanjohi, 2014).

Abbreviations and Acronyms

Abbreviations are initials which are spelled out. Acronyms on the other hand are letters that are read like any other word and never spelled out like abbreviations.

Points to note about Abbreviations and Acronyms:

- Should be arranged in alphabetical order,
- Should be written in upper case (Capitals),
- Separated from the text by 5 bar space taps and
- The corresponding text form should be in title case.

Example

KENPRO	Kenya Projects Organization (*acronym*)
WBC	Writers Bureau Centre (*abbreviation*)

Table of Contents

Table of contents is a list of parts (mainly chapters) and their sub-parts of a document. The table of contents in a research proposal should be organized according to chapters along with their respective headings and sub-headings. APA has five levels of headings. For the purpose of presentation, maintaining a maximum of three levels of headings is preferable.

List of Tables and List of Figures

Table of Contents is followed by a List of Tables and a List of Figures respectively. Each should be placed in a separate page.

CHAPTER ONE

INTRODUCTION

Outline

1.1 Background to the Study

The background to the study can be referred to as a 'rough road' to the statement of problem. It provides the description of the research problem from an international, regional to national and local perspective. It puts the problem in the correct perspective in order to provide the root or the genesis of the research problem. Background to the study should be detailed enough so as to make the research problem emerge clearly. There is also need to contextualize it. For a research proposal, it can be as short as one page or as long as three pages. It should not be kept too long as it can easily lose the reader!

Example

The following excerpt, which is based on a study conducted by Mathenge (2007) on involving prefects in the governance of public secondary schools in Nyeri Municipality in Kenya, provides a perspective of how to develop the background of the study:

The rapid expansion of student enrollments in most African countries since the attainment of political independence, coupled with inadequate resources to cope with the ever-increasing demand for educational provision, has made school management a much more complex and difficult enterprise now than a few decades ago. To ensure effective and successful management, the school head must not only be innovative, resourceful and dynamic, but also able to interact well with people both within and outside the school – staff and pupils, parents, members of the Parent-Teacher Association and many other members of the

community – all of whom need to be involved in one way or the other in decision-making processes (UNESCO, 1993).

The increased enrollment in Kenya schools since independence in 1963 coupled with an ever-increasing demand for quality education has made school governance a more complex undertaking than ever before. For the purpose of achieving success as a manager, the school head must create an environment for participatory democracy in the running of the school. Mbiti (1974) explaining about the participation of students in school governance put it that it is inevitable because students are in closer touch with each other through peer interaction than the staff is with them.

The position of prefect is a position of responsibility and one, which provides an important connection between pupils and staff. Becoming a prefect is a valuable goal and the position of prefect forms a valuable part of a pupil's personal development, opening their minds to new levels of responsibility and participation in a very positive way. Prefects are a tremendous help to the school and play a particularly important role in mentoring younger pupils (Monitor, 1999). They are delegated duties concerned with day-to-day life in school. These include coordination of co-curricular activities, dealing with minor cases of discipline and taking responsibility of students' welfare, They also carry out supervision of learning activities after school for junior pupils and checking attendants (Ozigi, 1995).

From the background, it is evident that the problem related to *school management* was discussed from an international

(Africa) to the national level (Kenya), although not comprehensively. For instance, the background pointed out that "*The rapid expansion of student enrollments in most African countries since the attainment of political independence, coupled with inadequate resources to cope with the ever-increasing demand for educational provision, made school management a much more complex and difficult enterprise....* This was put across to underscore the need to involve students, among other stakeholders in the management of schools. The background also tried to bring out the Kenya's perspective on the question of the involvement of prefects in school governance.

Background of the study should be developed in such a way that it 'smoothly' leads to the statement of the problem. The background to the study takes a funnel shaped approach.

Figure 1 Demonstrates the approach taken in developing background to the study

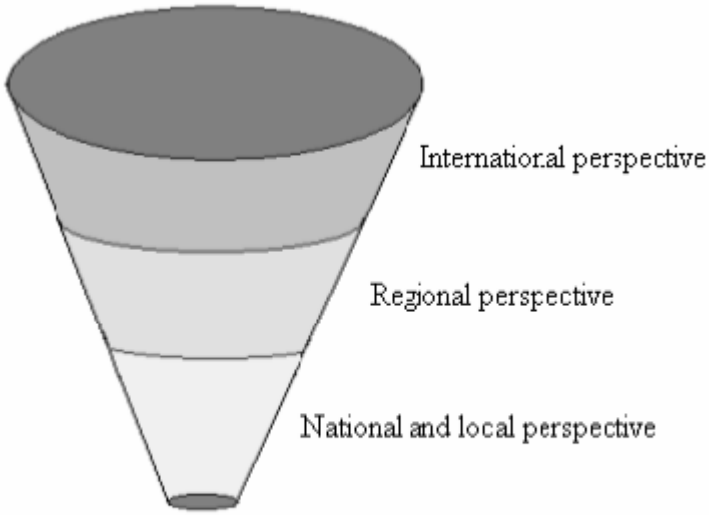


Figure 1.1

Approach to developing background to the study

While taking this approach, care should be taken to tie the main problem of the study (dependent variable) with the theorized predictors or parameters of the study (independent variables). A good background of the study should 'smoothly' lead to the statement of the problem based on the real social need on the ground or knowledge gap.

1.2 Statement of Research Problem

Statement of research problem has been subject to much debate among scholars and practitioners. Some are of the view that there should be no in text citation in the statement of the problem;

others argue that a good statement of the problem should be personalized. A good statement of problem should not only demonstrate the social need but should also clearly show the existing knowledge gap in the field of study.

Why do students of research find it hard to state the statement of research problem?

The simple answer to this question is that when students of research are asked to submit research topics, they do it by 'mere speculation'. They think of a research topic rather than an existing research problem or issue. There is what is referred to as a 'perceived' research problem and not a 'felt' research problem. The former is thought while the latter is based on the real problem on the ground.

From a practitioner's point of view, the following components should be considered when stating the statement of problem:

Statement of problem based on social need. This is about what 'pinches' you as a researcher to conduct the study. It is about what is happening on the ground, the social concerns about the problem under scrutiny. The problem may be based on personal experience, observation etc. The problem might have been highlighted in the news media or print media. This approach puts the statement of the problem in the context.

Statement of problem based on Knowledge Gap. This sprouts from an in-depth review of literature on the related area. The aim of the review is to identify the gaps in the existing body of literature. In text citation of some of the reviewed studies is thus essential.

Statement of intention. This is one or two lines of thesis where one states the problem. This comes after advancing some argument based on social need or knowledge gap. The magical opening word of the statement is 'therefore', 'thus', 'as such.'

The statement of the research problem should be developed in such a way that the need to carry out the study is clearly brought out. It becomes easier to state the problem if a rich background to the study precedes. We should however note that it is not easy to bring out the problem especially if the research problem is perceived and not felt! Students of research often think of a research topic and not a research problem! This marks the beginning of a 'long' and 'tedious' research journey of trying to state the problem without really stating it. It becomes a 'forced' research problem. There is no need to carry out such a study for it has no basis or contribution to global knowledge. Save your energy by trying to identify an area of need that can contribute towards policies, laws or action plan.

Example

Despite the role played by the Nairobi Securities Exchange (NSE) in contributing towards economic growth and capital market development in Kenya and the East Africa region, the exchange has continued to experience low market confidence (Kiruthu, 2007). There is no empirical evidence to show the underlying factors behind low market confidence in the exchange. The available body of knowledge has focused more on broader perspectives of African stock markets (Cosh, Hughes, and Singh, 1992), while studies on NSE have not necessarily addressed the

hindrance to its growth (Kiruthu, 2007; Mwebesa, 2008). Thus, there is need to examine the factors affecting the growth Nairobi Securities Exchange in Kenya [Source: Wanjiru, 2010].

Note
The statement of the problem is developed in such a way that the need to carry out the study is to 'some extent' brought out. The researcher discusses the problem based knowledge gap before stating the statement of intention, which is derived from the purpose or general objective of the study. The statement however, fails to provide some statistics to justify that there is a problem worth an investigation.

1.3 Research Objectives and/or Research Questions

A good research problem is that which generates a number of other research questions or objectives. After stating the research problem, you should go ahead to generate research questions or objectives. You may choose to use either research questions or objectives especially if they are referring to one and the same phenomenon.

Research questions refer to questions, which the researcher would like to be answered by carrying out the proposed study. The only difference between research questions and objectives is that research questions are stated in a question form while objectives are stated in a statement form. For an objective to be good, it should be SMART: Specific, Measurable, Achievable, Relevant and Time-bound.

The importance of research objectives lies in the fact that they determine:

- The kind of questions to be asked since research questions are derived from the objectives,
- The data collection and analysis procedure to be used and
- The design of the proposed study. Various research designs have different research objectives.

Using the study of Teacher and Parental Factors Affecting the Students' Performance in Private Secondary Schools in Embu Municipality as an example, you may state your research specific research objectives as follows:

1. To find out the teacher factors influencing the students' academic performance in private secondary schools in Embu Municipality
2. To find out the parental factors influencing the students' academic performance in private secondary schools in Embu Municipality
3. To determine the extent to which teacher and parental factors affect the students' academic performance in private secondary schools in Embu Municipality
4. To suggest what measures can be put in place to improve the students' academic performance in private secondary schools in Embu Municipality

Research Questions:

From the aforementioned research objectives, the following research questions can be stated:

1. What are the teachers factors influencing the students' academic performance in private secondary schools in Embu Municipality?
2. What are the parental factors influencing the students' academic performance in private secondary Schools in Embu Municipality?
3. To what extent do teacher and parental factors affect the students' academic performance in private secondary Schools in Embu Municipality?
4. What measures can be put in place to improve students' academic performance in private secondary schools in Embu Municipality?

Key points to note about research objectives and/or questions:

- You can choose to use either research objectives or the research questions if they are the same as it is in the given examples. But in the situation where you derive two or more research questions from one objective, you can use both research objectives and research questions in your proposed study,
- Avoid the common mistake of making your general research objective or general research question your specific objectives and/or questions! In other words, do not make your research title a research question. Remember: specific research objectives or questions derive from the research title which is the general research objective. Further research questions should NOT be leading (e.g., questions whose answer is obvious such as yes or no answer questions).

1.4 Hypothesis

King'oriah (2004) defines hypothesis as "a theoretical proposition, which has some remote possibility of being tested statistically or indirectly" (p.176). He further explains it as some statement of some future event which could either be unknown or known vaguely at the time of prediction; but set in such a way that it can either be accepted or rejected after appropriate testing.

The importance of hypothesis lies in the fact that they guide the researcher to delimit the area of research and to keep him/her on the right track. Hypothesis testing is also the basic activity of all research. No researcher will base his research findings on hearsay or unsubstantiated facts. He must have some hypothesis to test!

Characteristics of a well defined hypothesis:

A well-defined hypothesis according to Ogula (1998) should have the following characteristics:

1. It must be testable with the available techniques,
2. It should be possible to reject or accept the null hypothesis after data collection and analysis,
3. It should conjecture upon a relationship between two or more variables and
4. It should be stated clearly and unambiguously**.**

Types of Hypotheses

There are two main types of hypotheses:

1. Null Hypothesis
2. Alternative hypothesis

1.4.1 Null Hypothesis

King'oriah (2004) defines null hypothesis as "the negative statement of the suspected truth that is going to be investigated through data collection and data manipulation" (p.177). For example, if one wishes to investigate whether there is a statistical significant difference between the performance of male and female students in secondary schools, there could be two possibilities, one negative and the other positive:

- There is no statistical significant difference between the performance of male and female students in private secondary schools (*null hypothesis)*
- There is a statistical significant difference between the performance of male and female students in private secondary schools (*alternative)*

The negative statement is stated as the null hypothesis, thus:

$H_{0:}$ *There is no statistical significant difference between the performance of male and female students in private secondary schools.*

1.4.2 Alternative Hypothesis

King'oria (2004) defines alternative hypothesis as "the alternative set of facts that are accepted or proven to be true if the null hypothesis is rejected or proven to be not true." The positive statement is stated as an alternative hypothesis, thus:

H_A*: There is a statistical significant difference between the performance of male and female students in private secondary schools*

1.4.3 Decision Rule (to reject or not reject the null)

If probability value (p value) is equal to or LESS than .05; REJECT the null hypothesis and accept the alternative (*Conclude that there is a statistical significant difference*);

If P value is GREATER than .05; DO NOT REJECT the null hypothesis (c*onclude there is no statistical significant difference*).

Note:

A statistically significant result has a probability of less than .05

1.5 Significance of the Study

There are a number of questions you should ask yourself when you are planning to undertake a research study. These include but not limited to the following:

- What contributions and benefits (e.g., to education, community, policy, etc) are expected to come from the study?
- What will the result mean to the practicing educator or social scientist?
- Will the results, regardless of the outcome influence programs or methods?
- Will the results set a stage of deciding alternative courses of action for improving policies or laws?
- What new innovations will emerge as a result of the study?

If you take time to answer these questions before embarking on your study, then you will have found its rationale or significance. Chapter 5 on Conclusions and Recommendations should revisit the significance of the study and discuss whether or not the contributions and benefits of the study were realized.

Example

This example is an excerpt from a study on the issues facing the sustainability of Community Based Projects in developing countries:

Development practitioners (Government Institutions, INGOs, NNGOs), university professors, lecturers and students of Community Development and Project Management are expected to benefit from the resourcefulness of this study on the major issues facing the sustainability of Community Based Projects (CBPs). The study is expected to arouse new interest among scholars, development practitioners and students of research about re-mapping the traditionally established paths towards project sustainability. This could be through coming up with new project sustainability models that propagate responsible leadership/governance. Further, the study is hoped to contribute to global knowledge on the sustainability issues facing community projects from the perspective of developing economies (Wanjohi, 2010).

From the example, it is evident that significance of the study touches various stakeholders. The findings and/or results of the study are only 'expected', 'hoped' to be of benefit in terms of contributing to either policies, laws, action plan or knowledge. There is no need of undertaking a study if it does not have any contribution!

1.6 Assumptions of the study

In this section, you are required to provide the facts presumed to be true but have not been verified. The assumptions help you as a researcher to justify the study.

Example

In conducting the study, the following assumptions were made:

a) *That all respondents will be cooperative and provide reliable responses,*
b) *Teachers' professional experience affect the students academic performance in private secondary schools in Embu Municipality,*
c) *Parental economic background affects the students' academic performance in private secondary schools in Embu municipality,*
d) *The researcher does not know the extent to which teacher/parental factors affect the students' academic performance in private schools in Embu Municipality.*

1.7 Scope / Delimitations of the study

More often than not, students of research and even researchers are confused over the difference between scope and delimitation. In this guide, the terms are used to mean one and the same thing. By definition, delimitation is any factor within the researcher's control that may affect external validity. External validity is the extent to which the findings of a study can be applied to individuals and settings beyond those that were studied (Gall, Borg & Gall, 2003).

Example 1

The study covered only one private Boys' Secondary School in Embu Municipality. Students and teachers in this school were considered. Only a few parents, mainly those living around the school participated in the study.

Example 2

The sample population selected for this study was limited to students enrolled in Faculty of Education courses for the 2007 May/August in-service session at the Catholic University of Eastern Africa; thus, the ability to generalize to the entire population of the Catholic University and beyond its borders is severely limited. The sample however is similar in nature to the population that attends in-service sessions in various other universities in Kenya and can thus be generalized.

The scope of the study covers the following two central aspects:

Knowledge: Every study covers a given area of knowledge. The objectives / research questions are used to direct the knowledge scope of the study. No single study covers all areas of knowledge; similarly, no single study that does not open new areas of quest.

Geographical: Every study is delimited in terms of geographical coverage. In the given examples, the studies were conducted in a given geographical area.

Time: A research study is also delimited in terms of time. Time constraints may influence the outcome of a study if not well managed.

1.8 Limitations of the Study

The term limitation is different from delimitation. A limitation would be anything beyond the ability of the researcher to control that may affect the internal validity of the study. The internal validity of an experiment is the extent to which the researcher has controlled extraneous variables, so that any observed effect can be attributed solely to the treatment variable. An experiment is internally valid to the extent that it shows a cause-effect relationship between the independent and dependent variables (Gall et al., 2003). Limitations need to be thought out and defined carefully.

In this section, you should discuss the things that would affect the internal validity of the study. For instance statement of what extent the time, funds, location, type of samples selected, design issues could affect the study. Every research has a boundary and there is nothing much that a researcher can do. In other words, limitation of a study refers to the constraints or drawbacks, both theoretical and practical that the researcher has little or no control over. Limitations are normally stated in the proposal and accounted for in the final research report.

Example

The following were the limitations of the study:

- *The study limited itself to only one private school in Embu municipality. For more conclusive results, more private schools in Embu municipality should have been studied. However, this was not possible due to time and financial constraints.*
- *It was not possible to cover a larger number of parents because getting them required considerable time, resources and other logistics.*

1.9 Conceptual Framework

Conceptual framework is a structure of concepts and/or theories which are pulled together as a map for the study (Liehr & Smith, 2000). It forms the essence of the study. In drawing up your conceptual framework, you must have internalized, and conceptualized your study. The principal concepts (*dependent, independent and intervening*) variables guiding your study must be interrelated. Note that the concepts in the framework must be organized in a manner that makes them easy to communicate to others (readers).

Conceptual framework forms the heart of the study; it is the foundation of the very objectives (research questions) of the study. It dictates the direction of literature review, forms the basis of analysis, conclusions and recommendations. Conceptual framework may either be visualized by the researcher or adapted from other authors.

The framework is normally summarized in a schematic diagram which shows the relationship between independent and dependent variables (See Figure 1.2).

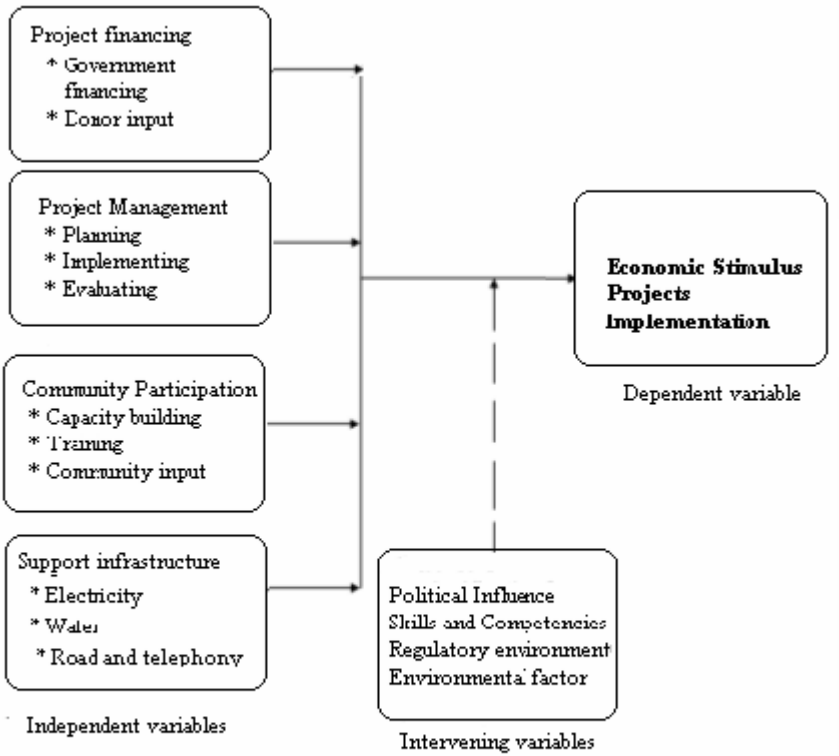


Figure 1.2

Factors influencing the implementation of Economic Stimulus Projects

Source: Kiama, 2013

Conceptual framework should not be left hanging, it should be explained. The relationship between the dependent and various independent variables must clearly be explained. Direction showing the interaction between and among variables should be indicated using arrows. The arrows can either be bi-directional showing interaction of variables or mono-directional pointing only towards the dependent variable or the output. Intervening variables (other influencing variables) should also be pointed out.

Types of Variables

When you think of conceptual framework, think about variables (parameters, concepts central to the study) and their relationship with the dependent variable. Although there are various types of variables, this guide briefly describes only three, namely dependent, independent and intervening variables which are commonly used when developing a conceptual framework.

Dependent variable. This is a presumed effect upon which independent variable depends. Dependent variable depends upon various factors (independent and intervening variables).

Independent variable. This is the presumed cause in an experimental study. All other variables that may have an influence on the dependent variable are controlled. In a strict sense, this would therefore imply that "independent variables" should not be used in non-experimental research designs where influence of other variables is not controlled (Indiana University, 2002).

Intervening variables (mediating). These are independent factors which may have an influence on the dependent variable. For instance, there are other factors that may influence economic

stimulus projects implementation apart from project financing, project management, community participation and support infrastructure. These other factors are (intervening) could be political influence, skills and competencies, regulatory and environmental factors.

1.10 Theoretical Framework

A theoretical framework is a structure of concepts which exists in the literature, a ready-made map for the study (Liehr & Smith, 2000). It guides your research, determining what things you will measure, and what statistical relationships you will look for.

Theoretical frameworks are obviously critical in deductive, theory-testing sorts of studies. In these kinds of studies, the theoretical framework must be very specific and well-thought out.

There are a number of reasons why a theoretical framework is important:

- It provides direction for the researcher as study questions are fine-tuned, methods for measuring variables are selected and analyses are planned,
- It is used as a base of comparison once data are collected and analyzed (whether the findings coincide with the framework, whether there are discrepancies etc) (Liehr & Smith, 2000) and
- It helps in avoiding personal bias when conducting a study.

Key points to note when presenting a theoretical framework:

- Explain the genesis of your theoretical framework,

- Provide the strengths and weaknesses of the theoretical framework and
- Explain the relevance of the theoretical framework in your study (link the theoretical framework with your study).

A study can be guided either by a conceptual framework OR a theoretical framework. However, both frameworks can still be used but the concepts should be linked.

Example

The following is an excerpt of a theoretical framework of a study by Nduta (2013) on Influence of Principals' Instructional Quality Assurance Role on Students' Academic Performance in Kitui West District in Kenya. The study used role theory.

Role theory became more prominent in sociological discourse through the theoretical works of George Herbert Mead, Jacob, Moreno, and Linton since 1930s. The theory stressed that the division of labour in society takes the form of the interaction among heterogeneous specialized positions, roles are based on 'appropriate' and 'permitted' forms of behavior, guided by social norms, which are commonly known and hence determine expectations. The role theory attempts to explain the roles occupied by individuals, who are called "actors". The theory holds that when individuals approve of a role, they will incur costs to conform to role norms, and will also incur costs to punish those who violate role norms. According to the theory, changed conditions can render a role outdated, in which case social pressures are likely to lead to role change (Hindin, 2007).

Role Theory finds its relevance in the current study based on its very propositions. The principals are actors in the school community who are assigned instructional quality assurance role. Since the role of the school principals is assigned, there are certain expectations. Principals are expected to play their role in terms of showing the direction on the application of pedagogical skills, in curriculum implementation, availing adequate teaching and learning resources and meeting teacher training and development needs. The ultimate expectation of the fulfillment of the assigned roles is to bring about better academic performance in school. As per the tenets of the role theory, failure to meet these expectations would attract punishment and meeting the expectations would lead to reward.

1.11 Operational Definition of Key Terms

Any term or phrase, central or key to the study that may be unfamiliar to the reader must be defined in this section. You may derive these terms from the research topic, research objectives or conceptual framework. While dictionary may define these terms literary, you are required to define them operationally, implying the way they are being used in the study. These terms are arranged in an alphabetical order.

Example

The following central terms are operationally defined based on their usage in the study:

Factors

The term factor is used in the study in relation to teacher and parental characteristics that influence the academic performance of students.

Parent

The term means a father or a mother. It can also mean a person who has not produced the offspring but has the legal status of a father or mother, as by adoption. This term is used in the study to refer to both natural parents and guardians.

Performance

For the purpose of this study, the term is used to mean the achievement of students at the end year examination.

Note

In most of study formats, Operational Definition of Key Terms falls in the last part of chapter one of introduction. However, some study formats put the section under preliminary pages, on the page preceding chapter 1.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Contents

2.1 Introduction

Literature Review is an evaluative presentation of information found in the literature related to one's area of study. The review describes, summarizes, evaluates, analysis and clarifies related literature. One's personal 'voice' should be heard in the pursuit of the review. The literature under review should be interpreted in the light of the study being undertaken.

In developing literature, the purpose is to convey to the reader what knowledge and ideas have been established on a topic, and what their strengths and weaknesses are. The literature review must be defined by a guiding concept, namely the research objectives or one's argumentative thesis. It is not just a descriptive list of the material available, or a set of summaries (Taylor, n.d).

Literature Review Outline: In a number of higher institutions of learning, literature review is presented under the following headings: 2.1 Introduction, 2.2 Theoretical Review (review of general assertions with no practical or empirical evidence, including theories), 2.3 Empirical Review (review of the past studies based on the area of study), 2.4 Critique (detailed analysis of theoretical and empirical literature, both positively and negatively) and 2.5 Summary (conclusion based on the reviewed literature).

Another classical approach to literature review is where theoretical and empirical reviews are combined and literature is presented thematically based on the objectives (Thematic approach). In this case, each objective is treated as a heading.

Under each heading, knowledge gap in the reviewed literature is identified. Literature summary is provided at the end of the review while giving a justification for undertaking the study.

2.2 Importance of Literature Review

Review of literature in any study is a demanding task; it requires scholarly maturity. Good review of literature is a sign of professional maturity; it shows one's grasp of the field, one's methodological sophistication in critiquing others' research, and the breadth and depth of one's reading (Krathwohl, 1988).

There are a number of reasons why review of related literature remains a core component of any scientific study. These include but not limited to the following:

Firstly, review of literature acts as a stepping-stone towards achievement of the study objectives. For scholars, the depth and breadth of the literature review emphasize the credibility of the writer in his or her field.

Secondly, literature reviews provide a solid background to back one's investigation. The review plays a critical role in analyzing the existing literature and giving justification as to how one's research fits into the existing body of knowledge. This implies that the literature review provides the general understanding which gives meaning to the discussion of findings, conclusions, and recommendations. This allows the author to demonstrate how his / her research is linked to prior efforts and how it extends to build on better understanding.

Thirdly, literature reviews help the researcher to avoid duplication, identify the gaps in other studies with the goal of filling them, borrow from the research design and methodology used to investigate that particular problem and to interpret his or her own findings.

In general, the literature review helps to provide a context for the research, justify the research, ensure the research hasn't been done, show where the research fits into the existing body of knowledge, enable the researcher to learn from previous theory on the subject, illustrate how the subject has previously been studied, highlight flaws in previous research, outline gaps in previous research, show that the work is adding to the understanding and knowledge of the field, help refine, refocus or even change the topic.

The temptation of being shallow, (and even to copy and paste) in review of literature is high. Thus, students of research, practitioners and scholars too are encouraged to shun away from being drawn into scholarly mediocrity.

2.3 Steps in Developing Literature Review

There are a number of steps one should consider when developing literature. These include the following: seeking clarification, establishing the sources of information, considering whether the sources are current, critically analyzing the content and considering organization of literature.

Seeking Clarification about Literature Review

Before embarking on a review of literature, first seek clarification from your supervisor regarding the organization of your literature (whether to provide subheadings based on themes and other background information, such as definitions and/or a history), number of sources (local and international sources) and the approach to take in presenting literature. This will safe you the headache of running to and fro with your supervisor(s). Preferably, make use of your institution's research guidelines.

Establishing the Sources of Literature

Once you have concepts or keywords or parameters, it becomes easier to retrieve information from both informal and formal sources. Informal sources include contact with peers, colleagues, other researchers, your Faculty members, Librarian, and your supervisor(s). Just as important as the network of informal contacts are the formal sources, including: books, scholarly, popular journals, research papers, theses, World Wide Web (Internet) articles, bibliographies, encyclopedias, handbooks, maps, newspapers, government legislation, statistics, conference proceedings, specific sources, such as ERIC documents on Education.

Considering whether the Literature Sources are Current

Some disciplines require that you use information that is as current as possible. In the sciences, for instance, treatments for medical problems are constantly changing according to the latest studies. Information even two years old could be obsolete. However, if you are writing a review in the humanities, history, or

social sciences, a survey of the history of the literature may be what is needed, because what is important is how perspectives have changed through the years or within a certain time period. Try sorting through some other current bibliographies or literature reviews in the field to get a sense of what your discipline expects.

Critically Analyzing the Content of Literature

As you select and use sources, critically analyze the content: This includes establishing whether research is based on established fact, determining the significance of the work in terms of models or theories, ascertaining the limitations of the study, finding out whether there are any flaws in the methodology, determining the facts, arguments, points of view, looking at any new findings, ascertaining the reliability and accuracy of the findings.

Considering the structure of literature

After getting related literature on your topic, consider organizing the information into themes. You can ask yourself: What are the most important subtopics that your review needs to include? And in what order should you present them? Develop an organization for your review at both a global and local level. In essence, most reviews are organized thematically based on the study parameters or objective areas of the study. Other reviews bear theoretical (not based on observation) and empirical (based on observable, tangible evidence). Preferably, consult your institution's research guidelines or specific terms of reference.

To help you come up with an overall organizational framework for your review, consider the following two typical ways of organizing the sources into a review:

Chronological: If your review follows the chronological method, you could write about the materials according to when they were published, that is from the most current literature (studies) to the oldest. Another way to organize the sources chronologically is to examine literature under trends, such as the history of your research problem. Then your review would have subsections according to eras within this period.

Thematic: This is the most common approach of organizing literature. Thematic reviews of literature are organized around a topic or issue, rather than the progression of time. However, the progression of time may still be an important factor in a thematic review. More authentic thematic reviews tend to break away from chronological order. A thematic review has subtopics based upon factors that are related to the theme or issue. These issues are basically the study parameters or key concepts or study objective areas.

Drawing an outline of literature review

Once you settle on the approach to use in presenting literature (either chronologically or thematically), outline your review structure. In order to draw the right outline of any literature review, it is important to seek guidance from your supervisor as each institution has a research guideline which provides a specific research outline.

2.4 Caution to Take When Reviewing Literature

Review of literature requires one to take some level of caution, including but not limited to the following: use of evidence when

reviewing, being selective, sparingly using quotes, maintaining one's own voice, accurately paraphrasing and revising the review.

Using evidence

When reviewing literature, it is vital to refer to several other sources when advancing a point. In other words, avoid allegations in the literature review. Note that the researcher's interpretation of the available sources must be backed up with evidence to support his/her claim.

Being 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 review's focus, whether it is thematic, methodological, or chronological. There is a high likelihood during this age of information to get junks from quacks. Use scholarly sources when reviewing literature, mainly from scholarly journals, published works, databases and organizations' and government websites among various other tangible sources.

Sparingly using quotes

Use quotes sparingly although some short quotes here and there are okay, if you want to emphasize a point, or if what the author said just cannot be paraphrased. In as much as possible, try to report and report accurately.

Summarizing and synthesizing literature

Remember to summarize and synthesize your sources within each paragraph as well as throughout the review. You could probably summarize different studies and identify the gaps.

Maintaining one's own voice

While the literature review presents others' ideas, your voice (the researcher's) should remain front and center. When reviewing literature, try to weave or tie references to other sources into your own text, while maintaining your own voice. This can be done by putting some remarks either within the paragraph or at the end using your own words.

Accurately 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. For instance, you can either directly refer to the author of your source, or provide ample notation in the text when the ideas are not your own. Avoid plagiarism by paraphrasing and maintaining the source of your information.

Revising the review

First, check the review to ensure that it follows your outline. Then, re-work on the language of your review so that you've presented your information in the most concise manner possible. Be sure to use terminology familiar to your audience; get rid of unnecessary jargon or slang. Finally, double check that you've documented your sources and formatted the review appropriately

for your discipline. Today, there are computer applications that can help you to review your work, improve grammar and avoid plagiarism. When revising or editing your literature, seek support from independent editors or make use of online applications or purchase one.

Example

The following is an excerpt of an empirical review of a study by Muli (2008) on the Relationship between Automated Trading System and Market Efficiency in Nairobi Securities Exchange:

Theoretical Review

Efficient market theory is one of the major theories which appropriately finds its relevance in the current study. The theory asserts that financial markets are "informational efficient" or that prices on traded assets such as stocks, bonds or property already reflect all known information and therefore are unbiased in the sense that reflect the collective beliefs of all investors about future prospects. In an efficient market, the security prices should adjust rapidly to include the new information in order for the current prices of securities to reflect all the available information (Reilly & Brown, 2006). Electronic trading system serves to ensure market efficiency through provision of timely information on stock securities.

Critique of the Theory

Opponents of the efficient market theory cite examples of market movements that seem inexplicable in terms of conventional theories of stock price determination. There are various psychological traits that affect the individual investors' behavior traits thus affecting investment. For instance, the stock market crash of October 1987 where most stock exchanges crashed at the

same time may not be effectively explained using efficient market theory. The explanation may lie either in the mechanics of the exchanges of the peculiarities of human nature (Olsen, 1998).

Empirical Review

A number of studies have been done on market efficiency of the emerging stock markets and their results are mixed. Naidu and Rozeff (1994) examined the behaviour of stock prices on the Singapore Stock Exchange and reported a reduction in autocorrelations. Similarly Chang et al (1999) conducted a study on the efficiency of automated trading system. The study found out that there was no significant change in the efficiency of the price discovery process following the introduction of a continuous auction system in Taipei. However Green et al (2002) and Ngugi et al (2003) provide evidence from stock markets in India and Africa respectively that indicate markets with advanced trading technology have greater efficiency.

Freund and Vahid (2001) examined pricing efficiency by using rescale range analysis before and after automation on the New York Stock Exchange and Tel Aviv Stock Exchange (TASE). The study findings revealed that automation is associated with an improvement in the market efficiency of the TASE relative to the New York Stock Exchange and any change in non random patterns in returns before and after automation were not detected. The conclusion made from their study was that automation has not changed pricing efficiency in the TASE.

Knowledge Gap

There are a number of studies that have been done in the area of automated trading system. Green et al (2002) and Ngugi et al (2003) provided evidence from stock markets in India and Africa

respectively that indicated markets with advanced trading technology have greater efficiency. Freund and Vahid (2001) conducted a similar study on New York Stock Exchange and Tel Aviv Stock Exchange. The studies revealed that the automated system had a positive effect on pricing and enhancement of stock market trading. While the studies shed some light on the impact of automated system in improving trading efficient, none looked into the operations of the manual trading systems against the automated system. The past studies put more emphasis on the effect of automated trading on pricing. The automation of NSE is still young and there is a little body of knowledge of automated systems and its effect on market efficiency. Therefore, this study sought to find out the challenges that faced the open cry system, the benefits of the introduction of the automated trading system and the relationship between the system and stock market efficiency in Nairobi Securities Exchange.

Note

The literature review excerpt has provided theoretical and empirical review. Theories and past studies on the relationship between automated trading system and market efficiency were reviewed. Knowledge gap of the reviewed studies was also identified. This review was however not thematically presented based on the objectives of the study. This guide is quick to note that the structure, organization or the specific outline of literature review is open and may therefore depend on the individual institution's terms of research guidelines.

CHAPTER THREE RESEARCH DESIGNS AND METHODOLOGY

Contents

3.1 Introduction

Research methodology is the systematic, theoretical analysis of the procedures applied to a field of study (Kothari, 2004). Methodology involves procedures of describing, explaining and predicting phenomena so as to solve a problem; it is the 'how'; the process, or techniques of conducting research. A Methodology does not set out to provide solutions but offers the theoretical underpinning for understanding which procedure, set of procedures can be applied to a specific case.

Research methodology encompasses concepts such as research designs, target population, sample size and sampling procedure, data collection instruments and data analysis procedure.

The research design on the other hand refers to the overall strategy that one may choose to integrate the different components of the study in a coherent and logical manner. This is done in order to ensure that one effectively addresses the research problem. Research design constitutes the blueprint or the roadmap for the collection, measurement, and analysis of data. According to Kothari (2004), research design is a plan, a roadmap and blueprint strategy of investigation conceived so as to obtain answers to research questions; it is the heart of any study.

Students of research (and even practitioners) more often than not confuse between research designs and research approaches.

Research design is a model or an action plan upon which the entire study is built; dictates the manner in which a study is conducted and provides the road map of a study in terms of the sample, data collection instruments and analysis procedure. Approaches on the other hand, are paradigms, research frameworks, which may be either quantitative or qualitative or both (mixed approach (Creswell, 2003)). A particular research design may adopt one approach or both. For instance, in a cross-sectional survey design, one may decide to use quantitative approach or both (mixed approaches); other studies like a case study, ethnography study, phenomenological study, grounded theory study and content analysis study are mainly qualitative.

There is one major factor that one should consider before deciding on what research design to adopt, namely knowing the type of research being undertaken. When undertaking a research, one does not have to collect data or even begin without first knowing what type of study one is undertaking. Research design is dictated by the type of research. Therefore, having an idea of what type of research one is to undertake directs the study so as to come up with a sketch plan or model (design) which will guide the study.

3.2 Types of Research Designs and Approaches

There are as many types of research designs as there are types of research. For the purpose of this guide, this section provides an overview of the major types of research designs and approaches that are commonly used by students of research and practitioners. The designs are broadly classified into two: Experimental and Non-experimental research designs. Research approaches on the other hand, are grouped into quantitative, qualitative and mixed.

3.2.1 Experimental Research Designs

These include true and quasi experimental research designs.

True Experimental Designs

True experimental research designs rely on random assignment and laboratory controls to ensure the most valid, reliable results; they produce the strongest, most valid results. However, the experimental design is often not practical for many studies in social science, education and business because researchers cannot, in many instances, exercise laboratory controls in natural-world settings or randomly assign subjects.

An experimental design consists of two groups of subjects: treatment (an experimental group) and a control group (non-experimental group). The experimental group undergoes the treatment, program or intervention of interest. Researchers then measure the differences between the two groups on a particular outcome.

There are three types of true experimental designs. These include:

1. Pre-test/Post-test control group design
2. Post-test only control group design
3. Solomon Four-Group design

Pre-test/Post-test control group design. This design is characterized by pre-testing and post-testing of treatment and control groups.

The following steps are involved when using pre-test/post test research design:

- Randomly assigning subjects to treatment or control groups,
- Administering the pre-test to all subjects in both groups,
- Ensuring that both groups experience the same conditions except that in addition the experimental group experiences the treatment,
- Administering the post-test to all subjects in both groups,
- Assessing the amount of change in the value of the dependent variable from the pre-test to the post-test for each group separately (California State University, n.d).

Post-Test Only Control Group Design. This design follows the same steps as pre-test/post-test design except that it omits the pre-test. The design is time and cost saving as compared to pre-test/post test research design since the pre-test is omitted.

Solomon Four-Group design. This design uses four groups (2 treatment and 2 control groups). The design assesses the extent to which pre-test is plausible. This implies that the design tries to establish whether the mere act of taking a pretest influences scores on subsequent administrations of the test (Clark & Shadish, 2008). Thus, the design is aimed at eliminating some of the difficulties associated with the pretest-posttest design (Shuttleworth, 2009). Despite its strengths, the design suffers from the weakness of complexity. The design requires time and resources.

Strengths and weakness of Experimental research designs. The greatest strength of an experimental-research design is the highest level of certainty with which changes in the outcome of interest which can be attributed to the independent variable or "treatment." The greatest limitation of the design is its artificiality, for effects occurring in an experiment under research controls might not take place in more natural settings. Other limitations include high costs, ethical issues, technical concerns and difficult in applying qualitative approach (Anastas, 1999).

Quasi Experimental Research Design

Quasi experimental design specifically lacks the element of random assignment to treatment or control; allows the researcher to control the assignment to the treatment condition, but using some criterion other than random assignment. Quasi experiments are usually preferred where other experiments might not be practical since true experiments cannot answer the many questions that one would want to.

3.2.2 Non-Experimental Research Designs

Besides experimental research designs (which rely more on random and laboratory controls), there are other types of research designs (or research types) which are more descriptive and may not necessarily rely on random and laboratory controls. These include but not limited to Case study research design, Content Analysis research design, Causal Comparative (Ex Post Facto) research design, Ethnographic Research Design, Grounded Theory Research Design, Phenomenological Design, Philosophical Research Design and Survey research design.

Case Study Research Design

According to Creswell (2003), a case study is an in depth exploration of a program, an event, an activity, a process, or of one or more individuals (p. 15). The case study can be either a single case or a case bound by time and place (Creswell, 1998). Leedy and Ormrod (2001) provide several examples from different disciplines such as a medical research studying a rare illness (event) or political science research on a presidential campaign (activity). According to Leedy and Ormrod, case studies attempt to learn "more about a little known or poorly understood situation" (p.149). The data collection for a case study should be extensive and drawn from multiple sources such as direct or participant observations, interviews, archival records or documents, physical artifacts, and audiovisual materials. The researcher must spend time on-site interacting with the people studied. The report should include lessons learned or patterns found that connect with theories. One of the major limitations of *case* study research design is that the results cannot be generalized. Case studies can form proposition upon which further studies can be conducted.

Content Analysis Research Design

Leedy and Ormrod (2001) define this method as "a detailed and systematic examination of the contents of a particular body of materials for the purpose of identifying patterns, themes, or biases" (p. 155). Content analysis reviews forms of human communication including books, newspapers, and films as well as other forms in order to identify patterns, themes, or biases. The method is designed to identify specific characteristics from the content in the human communications. The researcher explores

verbal, visual, behavioral patterns, themes, or biases in order to make inferences.

The procedural process for the content analysis study is designed to achieve the highest objective analysis possible and involves identifying the body of material to be studied and defining the characteristics or qualities to be examined (Leedy & Ormrod, 2001). The research report may have the following sections: the description of the materials studied, the characteristics studied, a description of the methodology, the analysis based on the objectives, and conclusions about the patterns, themes, or biases found in the analyzed content or data collected.

Causal Comparative (Ex Post Facto) Research Design

Causal comparative studies are also called ex post facto because the investigator has no control over the exogenous variable since whatever happened occurred before the researcher arrived therefore there is no certainty that the two groups were exactly equal before the difference occurred (Dehejia & Wahba, 2002). In causal comparative design, two groups that differ are selected and comparison is done. Inferential analysis such as t-test (for two groups) and Analysis of Variance (comparison of means for more than two groups) or Chi Square (for frequency data) are used. Researchers often infer cause and effect relationships based on such studies.

Correlation Research

Schmidt (1989) notes that a correlation study is used when you want to take a look at variables and see if they have any

relationship. Scientists use terms like positive correlation, negative correlation and no correlation to describe the relationship among variables in a correlation study. In scientific research, correlation does not necessarily imply causation, in that two variables may be associated without having a causal relationship. According to Stanovich (2007), correlation studies, appropriately used, are important to science in terms of the following:

- Scientific hypotheses are stated in terms of correlation or lack of correlation and
- Although a correlational study cannot definitely prove a causal hypothesis, it may rule one out.

The importance of correlation studies lies in the fact that once correlation is known, it can be used to make predictions. Therefore, the stronger the relationship between and among variables, the more accurate the prediction is. Thus, correlation studies can form a strong foundation for more rigorous experimental studies.

Descriptive Research Designs

Descriptive research designs are applied in various qualitative studies which use observation and interview methods such as case studies, ethnography among others. These designs help to provide answers to the questions of who, what, when, where, and how associated with a particular research problem. The designs can never however answer the question of ‘why’. Descriptive research designs are 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 (Anastas, 1999).

Descriptive research designs typically are characterized by the following:

- Use of observation of the subject under study in its natural setting or environment,
- Serves as a pre-cursor to more quantitatively research designs,
- Can form the basis for developing a more focused study,
- Can yield rich data that lead to important recommendations and
- Collection of a large amount of data for detailed analysis.

The limitations of descriptive research designs lie in the following:

- The results cannot be used to discover a definitive answer or to disprove a hypothesis and
- The results cannot be generalized since the designs often utilize observational methods which are purely qualitative (USC, 2013).

Ethnographic Research Design

According to Creswell (2003), in "ethnographies, the researcher studies an intact cultural group in a natural setting over a prolonged period of time by collecting, primarily, observational data" (p. 14). Ethnographic studies an entire group that shares a common culture (Leedy & Ormrod, 2001). The focus is on everyday behaviors to identify norms, beliefs, social structures, and other factors. Ethnographic studies usually try to understand the changes in the group's culture over time. As a result, findings may be limited to generalization in other topics or theories.

In the ethnographic research design, the researcher must become immersed in the daily lives of the participants in order to observe their behavior, then interpret the culture or social group and systems (Creswell, 1998). The initial step in the ethnographic process is to gain access to a site. Second, the researcher must establish rapport with the participants and build trust. Third, the researcher starts using the big net approach by intermingling with everyone in order to identify the key informants in the culture (Leedy & Ormrod, 2001). The design makes use of the participant's observations and interviews of key informants. If the interviews are lengthy, the researcher gathers documentation by using audiotapes or videotapes media. In this design, the researcher must give the justification for the study, the description of the group and method of study, the findings to the research questions and conclusions about group's shared culture that developed over time.

Grounded Theory Research Design

According to Creswell (2003), in grounded theory research, a researcher attempts to derive a general, abstract theory of a process, action, or interaction grounded in the views of participants in a study. Leedy and Ormrod (2001) further observe that grounded theory research begins with data that develops into a theory. The term grounded provides the context of this method while the research requires that the theory must emerge from the data collected in the field rather than taken from the research literature (Leedy & Ormrod, 2001). Grounded theory has been used primarily in the sociology since the design examines people's actions and interactions.

Phenomenological Research Design

The purpose of phenomenological study is "to understand an experience from the participant's point of view" (Leedy & Ormrod, 2001, p. 157). The focus is on the participant's perceptions of the event or situation and the study tries to answer the question of the experience. According to Creswell (1998), the essence of phenomenological study is the search for "the central underlying meaning of the experience and the intentionality of consciousness where experiences contain both the outward appearance and inward consciousness based on the memory, image, and meaning" (p. 52).

The difficulty of this study is that the researcher usually has some connection, experience, or stake in the situation so bracketing (setting aside all prejudgments) is required. Phenomenological research design makes use of in depth interview. The method of collecting data is through lengthy (1-2 hours) interviews in order to understand and interpret a participant's perception on the meaning of an event. Creswell (1998) suggests the procedural format is writing the research questions that explore the meaning of the experience, conducting the interviews, analyzing the data to find the clusters of meanings, and ending with a report that furthers the readers' understanding of the essential structure of the experience. The study collects data that lead to identifying common themes in people's perceptions of their experiences. Ideograms are preferably used to report the findings of the study.

Philosophical Research Design

According to Labaree and Scimeca (2008), philosophical research design is a broad approach to examining a research problem; the

design is intended to challenge deeply embedded, often intractable, assumptions underpinning an area of study. This design uses the tools of argumentation derived from philosophical traditions, concepts, models, and theories to critically explore and challenge. For instance, the design may be used to challenge the relevance of logic and evidence in academic debates, to analyze arguments about fundamental issues, or to discuss the root of existing discourses about a research problem.

Philosophical research design may take ontological, epistemological or axiological approach. Ontology describes the nature of reality. For example, what is real and what is not, what is fundamental and what is derivative?; Epistemology explores the nature of knowledge. For example, on what does knowledge and understanding depend upon and how can we be certain of what we know? and Axiology explores values. For example, what values does an individual or group hold and why? How are values related to interest, desire, will, experience, and means-to-end? And, what is the difference between a matter of fact and a matter of value?

Survey Research Design

Survey research design is one of the most popular research designs used by students of research, practitioners and scholars. Surveys are broadly classified into two, namely cross-sectional and longitudinal surveys.

Cross-sectional Survey

Cross-sectional Surveys are primarily used to determine prevalence which equals the number of cases in a population at a

given point in time (Levin, 2006). Typically, a cross-sectional study involves drawing a sample of elements of the population of interest. The design is useful in describing the characteristics of a large population, makes use of large samples, thus making the results statistically significant even when analyzing multiple variables; the design also allows use of various methods of data collection such as questionnaire, structured and unstructured interviews and document analysis. It also makes use of standardized questions where reliability of the items is determined. Further, the findings of the study can be generalized (Owens, 2002).

Longitudinal Survey

A longitudinal study according Ployhart and Robert (2010), 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.

The longitudinal survey study has the following features: allow the analysis of duration of a particular phenomenon, enables survey researchers to get close to the kinds of causal explanations usually attainable only with experiments, permits the measurement of differences or change in a variable from one

period to another [i.e., The description of patterns of change over time], facilitates the prediction of future outcomes based upon earlier factors.

The main types of longitudinal studies include rotating panel surveys [when individuals are tracked and studied], Household panel surveys [when individuals are followed and observed within their household and information is collected] and cohorts (Bryant, 2013).

Cohort research design: A cohort study is one type of the longitudinal survey which is conducted over a period of time involving members of a population with some commonality or similarity (Healy & Devane, 2011). 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.

Conclusion

The research designs may be as confusing as the types of research studies that exist. This guide has briefly explored the key research designs which students of research and practitioners can adopt in their studies. Fundamentally, the research design should be dictated by the type of study a researcher intends to undertake based on the issue at hand. A researcher should provide an explanation for the choice of research design chosen in a particular study. Remember, research is in the design!

3.2.3 Research Approaches

Owing to the confusion surrounding research designs and approaches, this guide briefly explores two major research paradigms, namely qualitative and quantitative along with a 'tier approach', namely Mixed Method Approach (Creswell, 2003). It should be noted that all the research designs fall either under qualitative or quantitative approach or both, that is mixed research approach.

Quantitative Research Approach

Quantitative research approach is driven by the researchers with the need to quantify data. It involves a numeric or statistical approach to research design. It is specific in its surveying and experimentation, as it builds upon existing theories. The methodology of a quantitative research maintains the assumption of an empiricist paradigm (Creswell, 2003). The research itself is independent of the researcher. As a result, data is used to objectively measure reality. Quantitative research creates meaning through objectivity uncovered in the collected data. Quantitative researchers seek explanations and predictions that can be generalized to other persons and places. The intent of this approach is to establish, confirm, or validate relationships and to develop generalizations that can contribute to theory (Leedy & Ormrod, 2001, p. 102).

Quantitative research begins with a problem statement and involves the formation of a hypothesis, a literature review, and a quantitative data analysis. Creswell (2003) states, quantitative research "employ strategies of inquiry such as experimental and surveys, and collect data on predetermined instruments that yield

statistical data" (p. 18). The findings from quantitative research can be predictive, explanatory, and confirming.

Qualitative Research Approach

Qualitative research is an unfolding model that occurs in a natural setting that enables the researcher to develop a level of detail from high involvement in the actual experiences (Creswell, 1994). One identifier of a qualitative research is the social phenomenon being investigated from the participant's viewpoint. There are different types of research designs that use qualitative research approach. These include case study, ethnography study, phenomenological study, grounded theory study, and content analysis. These five areas are representative of research that is built upon inductive reasoning and associated methodologies.

What constitutes qualitative research involves purposeful use for describing, explaining, and interpreting the collected data. Leedy and Ormrod (2001) allege that qualitative research is less structured in description because it formulates and builds new theories. It is an effective model that occurs in a natural setting that enables the researcher to develop a level of detail from being highly involved in the actual experiences (Creswell, 2003).

Mixed Research Approach

Mixed methods research approach (method) is a procedure for collecting, analyzing, and "mixing" both quantitative and qualitative research approaches in a single study to understand a research problem. With the mixed methods approach to research, researchers incorporate methods of collecting or analyzing data from the quantitative and qualitative research approaches in a

single research study (Creswell, 2003; Tashakkori & Teddlie, 2003; Johnson & Onwuegbuzie, 2004). Researchers collect or analyze not only numerical data, which is customary for quantitative research, but also narrative data, which is the norm for qualitative research in order to address the research question(s) defined for a particular research study. For instance, in order to collect a mixture of data, researchers might distribute a survey that contains closed-ended questions to collect the numerical, or quantitative data and conduct an interview using open-ended questions to collect the narrative, or qualitative data.

Mixed methods approach to research is an extension rather than a replacement for the quantitative and qualitative approaches to research, as the latter two research approaches will continue to be useful and important. The goal for researchers using the mixed methods approach to research is to draw from the strengths and minimize the weaknesses of the quantitative and qualitative research approaches (Johnson & Onwuegbuzie, 2004).

By having the ability to design research studies that combine data collection or data analysis methods from the quantitative and qualitative research approaches, researchers are now able to test and build theories. The mixed methods approach to research provides researchers with the ability to design a single research study that answers questions about both the complex nature of phenomenon from the participants' point of view and the relationship between measurable variables. The quantitative and the qualitative research approaches are not only compatible but also complimentary (Johnson & Onwuegbuzie, 2004; Tashakkori & Teddlie, 2003, Carr, 1994). Thus, there is need for various study designs to be open to the application of the mixed research approach.

Conclusion

Quantitative and qualitative research methods investigate and explore the different claims to knowledge and both methods are designed to address a specific type of research question. While the quantitative method provides an objective measure of reality, the qualitative method allows the researcher to explore and better understand the complexity of a phenomenon in a subjective manner. Although each approach seeks to validate sensory knowledge as truth, neither is absolute in its form and neither is superior to the other. Mixed Approach comes in as an answer to the dichotomy between qualitative and quantitative approaches; it serves as a 'tier' approach which fills and 'ties' the gaps of individual approaches.

3.3 Target Population

The target population in a study is the entire set of units for which the study data are to be used to make inferences (Cox, 2013). Defining the target population in any study is as important as identifying the study objectives. According to Gall et al. (2003), a target population provides a solid foundation and first step upon which to build the validity and reliability of the study. This population helps in determining whether sampled cases are eligible or ineligible for the study.

Example

The following example is based on a study by Wanjohi (2010) on the sustainability issues facing community based projects in rural areas of Mbeere District in Kenya.

The study targeted four (4) Community Based Projects in Mburutani Area. These included Water Harvesting Project, Goat

Rearing Project, Grain Mill Project and Community Micro-finance Project. All the members of these projects were targeted. Each project had an estimated population of eighty (80) members. Thus in total, there were approximately three hundred and twenty (320) members of the projects who formed the target population of the survey.

3.4 Sample Size and Sampling Procedure

3.4.1 Sample Size

The ever increasing need for a representative statistical sample in empirical research has created the demand for an effective method of determining sample size. Determination of sample size differs depending on the research design. For instance, survey research design requires huge sample size for the purpose of representation; in census, everyone in the target population is selected to participate in the study, hence the sample size is equal to the size of the target population; in experimental research design, with treatment and control groups, the sample size may differ in each group.

There are different ways of determining a sample size. For the purpose of this guide, sample size determination formula for infinite population ('unknown') and finite population ('known') are briefly discussed.

Sample Size Formula for Infinite Population

The following sample size formula for infinite population (more than 50,000) is used to arrive at a representative number of respondents when population estimate is known (Godden, 2004):

$$n = \frac{Z^2 \times p\,(1 - p)}{M^2}$$

Where:

n = *Sample Size for infinite population*

Z = *Z value (e.g. 1.96 for 95% confidence level)*

P = *population proportion (expressed as decimal) (assumed to be 0.5 (50%) since this would provide the maximum sample size).*

M = *Margin of Error at 5% (0.05)*

Example

The following worked out example uses a population proportion (P) of 30% (0.3) to determine a sample size (n) of an infinite population.

$$\mathbf{n} = \frac{1.96^2 \times .3(1-.3)}{.05^2}$$

$$\mathbf{n} = \frac{3.8416 \times .21}{.0025}$$

$$\mathbf{n} = \frac{.8068}{.0025}$$

$$\mathbf{n} = 322.72 \sim \mathbf{323}$$

Note

You can use a particular population proportion based on established statistics of the population you are targeting. For instance, you may target 30% (0.3) of a population in particular location of your study (as in the worked out example). You may also opt to use the standard population proportion of 50% (0.5) which is the maximum sample size one can select from a population.

Sample Size Formula for Finite Population

If the target population is finite, the following formula (Krejcie & Morgan, 1970) may be used to determine the sample size.

$$S = \frac{X^2NP\,(1-P)}{d^2\,(N-1) + X^2P\,(1-P)}$$

Where:

S = *Required Sample size*

X = *Z value (e.g. 1.96 for 95% confidence level)*

N = *Population Size*

P = *Population proportion (expressed as decimal) (assumed to be 0.5 (50%) since this would provide the maximum sample size).*

d = *Degree of accuracy (5%), expressed as a proportion (.05); It is margin of error*

Table for determining sample size for finite population

To simplify the process of determining the sample size for a finite population, Krejcie & Morgan (1970), came up with a table using sample size formula for finite population.

Table 3.1

Table for Determining Sample Size of a Known Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	1000000	384

Note: N is Population Size; S is Sample Size *Source: Krejcie & Morgan, 1970*

Note

There is no need of using sample size determination formula for 'known' population since the table has all the provisions one requires to arrive at the required sample size. For a population which is equal to or greater than 1,000,000, the required sample size is 384.

3.4.2 Sampling Procedures

Sampling is a process or technique of choosing a sub-group from a population to participate in the study; it is the process of selecting a number of individuals for a study in such a way that the individuals selected represent the large group from which they were selected (Ogula, 2005). There are two major sampling procedures in research. These include probability and non probability sampling.

Probability Sampling Procedures

In probability sampling, everyone has a non-zero chance of being selected. This scheme is one in which every unit in the population has a chance (greater than zero) of being selected in the sample. There are four basic types of sampling procedures associated with probability samples. These include simple random, systematic sampling, stratified and cluster.

Random sampling procedure - random sampling is the most basic sampling procedure which is held to be unrepresentative unless used along with other more complex sampling procedures like cluster and stratification. To conduct a simple random sample, the researcher must first prepare an exhaustive list (sampling frame) of all members of the population of interest. From this list, the sample is drawn so that each person or item has an equal chance of being drawn during each selection round (Kanupriya, 2012).

To draw a simple random sample without introducing researcher bias, computerized sampling programs or *random number tables* are used to impartially select the members of the population to be

sampled. Subjects in the population are sampled by a random process, using either a random number generator or a random number table, so that each person remaining in the population has the same probability of being selected for the sample (Friedrichs, 2008). Random sampling on its own is however not representative since it does not represent all sampling units equally.

Systematic sampling procedure. Systematic sampling procedure often used in place of simple random sampling. In systematic sampling, the researcher selects every nth member after randomly selecting the first through nth element as the starting point. For example, if the researcher decides to sample 20 respondents from a sample of 100, every 5th member of the population will systematically be selected.

A researcher may choose to conduct a systematic sample instead of a simple random sample for several reasons. Firstly, systematic samples tend to be easier to draw and execute, secondly, the researcher does not have to go back and forth through the sampling frame to draw the members to be sampled, thirdly, a systematic sample may spread the members selected for measurement more evenly across the entire population than simple random sampling. Therefore, in some cases, systematic sampling may be more representative of the population and more precise (Groves et al., 2006).

Stratified sampling procedure. Stratified sampling procedure is the most effective method of sampling when a researcher wants to get a representative sample of a population. It involves

categorizing the members of the population into mutually exclusive and collectively exhaustive groups. An independent simple random sample is then drawn from each group. Stratified sampling techniques can provide more precise estimates if the population being surveyed is more heterogeneous than the categorized groups. This technique can enable the researcher to determine desired levels of sampling precision for each group, and can provide administrative efficiency. The main advantage of the approach is that it's able to give the most representative sample of a population (Hunt & Tyrrell, 2001).

Cluster sampling procedure. In cluster sampling, a cluster (a group of population elements), constitutes the sampling unit, instead of a single element of the population. The sampling in this technique is mainly geographically driven. The main reason for cluster sampling is cost efficiency (economy and feasibility). The sampling frame is also often readily available at the cluster level and takes a short time for listing and implementation. The technique is also suitable for survey of institutions (Ahmed, 2009) or households within a given geographical area.

Cluster sampling procedure has some disadvantages: a) it may not reflect the diversity of the community, b) other elements in the same cluster may share similar characteristics, c) it provides less information per observation and d) standard errors of the estimates are high compared to other sampling designs with the same sample size.

Non Probability Sampling Procedures

Non probability sampling is convenient or purposive sampling used in some situations where the population may not be well defined. It is mostly used in the initial stages of sampling in multi-stage sampling (eg. a particular county). The rationale for choice is often given. The most common reason for using non probability sampling procedure is that it is less expensive and can often be implemented more quickly (Michael, 2011). It includes purposive, accessibility (convenience) and quota sampling procedures.

Purposive sampling procedure. In purposive sampling procedure, the researcher chooses the sample based on who he/she thinks would be appropriate for the study. The main objective of purposive sampling is to arrive as at a sample that can adequately answer the research objectives. The selection of a purposive sample is often accomplished by applying expert knowledge of the target population to select in a non random manner a sample that represents a cross-section of the population (Henry, 1990). It is useful in initial stages of sampling especially in multi-stage sampling.

A major disadvantage of this procedure is subjectivity since another researcher is likely to come up with a different sample when identifying important characteristics and picking typical elements to be in the sample. Given the subjectivity of the selection mechanism, purposive sampling is generally considered most appropriate for the selection of small samples often from a limited geographic area or from a restricted population definition. The knowledge and experience of the researcher making the selections is a key aspect of the ‘‘success’’ of the resulting sample

(Michael, 2011). For instance, key informants are selected using this procedure.

Accessibility sampling: This is *c*onvenience sampling, sometimes known as opportunity, accidental or haphazard sampling. It is a type of non-probability sampling which involves the sample being drawn from that part of the population which is close to hand, that is, a population which is readily accessible and convenient. The researcher using such a sample cannot scientifically make generalizations about the total population from this sample because it would not be representative enough (Michael, 2011). This type of sampling is most useful for pilot testing. The primary selection criterion in the procedure relates to the ease of obtaining a sample. Ease of obtaining the sample relates to the cost of locating elements of the population, the geographic distribution of the sample, and obtaining the interview data from the selected elements (de Leeuw, Hox & Huisman, 2003).

Quota sampling: This is a non probability sampling procedure in which the choice of actual sample is left to the enumerator's discretion. It is quick and cheap but it can lead to a biased sample since it is subjective.

3.5 Data Collection Instruments

3.5.1 Questionnaire

Questionnaire is one of the commonly used tools of data collection especially in survey research design. A questionnaire constitutes a set of written questions on a sheet with spaces provided for respondents to reply to the items (questions). There are several reasons why a questionnaire is used in a study.

These include the following: its potential in reaching out to many respondents within a short time, b) able to give the respondents adequate time to respond to the items, c) offers a sense of security (confidentiality) to the respondent and d) it is an objective method since no bias resulting from the personal characteristics (as in an interview) (Owens, 2002).

However, questionnaires are characterized by two main disadvantages, namely: a) only people who can read and write can answer them and b) less opportunity exists for the respondent to explain confusing answers.

Steps when designing a questionnaire

Drawing the structure of the questionnaires based on study parameters: When designing a questionnaire, the first step is to write down the broad areas you wish to cover based on your parameters or the independent variables of the study. The researcher should first think about what he/she intends to measure. For instance in a study entitled: 'Determinants of Financial Sustainability in Non Governmental Organizations', the researcher would be guided by certain theorized or hypothesized parameters which include but not limited to Financial Management, Resource Mobilization, Resource Diversification and Donor Management. These parameters will help the researcher in determining how to structure the questionnaire. Each parameter is supposed to generate adequate items (questions) to measure what one expects to establish. Thus, the questionnaire is structured or organized according to the study objectives or parameters or concepts.

Designing the items - The individual items of the questionnaires are organized according to the research objectives or parameters.

A well structured conceptual framework (with dependent, independent and intervening variables) and literature review guide the development of individual items of the questionnaire.

Determining the type of questions to ask - There are open-ended and close-ended questions that a researcher may decide to ask while developing a questionnaire. In close- ended questionnaire, the researcher may provide formats such as true or false responses to statements; may use Likert Scale (Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree) while assessing attitudes or have the multiple choice items. Close-ended questions are usually easy to analyze provided one offers suitable alternatives.

In contrast, open-ended questions offer no potential answers and respondents are permitted to respond in any way they choose. Open-ended questions allow the respondent to answer in his or her own words. The questionnaire does not provide a list of answers or options from which the respondent must choose. Open-ended questions are particularly useful when one wants to ask about ideas or opinions, and when the investigator really does not know what answers to expect. However, in as much as possible, try to limit the number of open ended items, especially when dealing with a large sample frame. It can be very tedious to extract all the responses from the open ended items and time constraints may not be kind enough. Further, respondents tend to skip most of the open ended items when answering questionnaires.

Conclusion – It is important to keep in mind the following points when writing questions: Use the language that suits your respondent, ensure your questions are clear and specific, Each

question should address only one issue, Avoid ‘double ’questions in one item, avoid asking ‘leading’ questions, sequence questions in a logical order, provide clear instructions about how to answer the questions, take special care in the wording of sensitive questions and always validate or pilot a questionnaire on a few people before it is completed. Remember, it is unethical to waste people’s time in collecting data which will not amount to reasonably answering the objectives of the study. Thus, great care should be taken while designing data collection instruments.

3.5.2 Interview

Interviewing is one of the most common methods of collecting information from individuals. There are various types of interviews that are used to collect data. These include structured, semi-structured and unstructured interviews.

Structured interviews: These are more or less like questionnaires since they consist of closed ended items. In this kind of interview, the respondents must choose from a limited number of answers that have been written in advance.

Semi-structured interviews: These are flexible kind of interviews in which the interviewer asks important questions in the same way each time but is free to alter the sequence of the questions and to probe for more information. Some items are structured while others are open. The respondents are free to answer the questions in any way they choose (See Appendix B).

Unstructured interviews: These are wholly open ended instrument in which interviewers have a list of topics they want respondents

to talk about but are free to phrase the questions as they wish. The respondents are free to answer in any way they choose.

Interviews can be conducted in a variety of ways; for example, by telephone or as a face-to-face interview using an interview schedule to guide your questions

What to keep in mind when Interviewing:
As a student of research or a practitioner, there are a number of points you need to observe when conducting an interview:

- Provide a time limit for the interview,
- Collect demographic information of the interviewee(s)
- Ensure you word the questions clearly,
- Gently probe your respondents for details about their feelings and opinions,
- Accurately record your interviews by writing detailed notes or by tape-recording,
- Where appropriate, obtain permission to tape-record the interview from the respondent and
- Collect demographic information at the end of the interview.

Note
In your study, ensure that you describe the reasons of using the interview method to collect data. Explain also the structure (organization) of the interview guide adopted by your study.

Example
Semi structured interview guide will be used to collect data from the key informants (e.g. managers) because of the following reasons: i) the method offers high response quality, ii) it takes

advantage of the facilitators' presence and iii) combines questioning, cross-examination and probing approaches (Owens, 2002).

The interview guide is semi structured, with some open and close ended items. The items are grouped into various sections based on the research objectives. The first section covers background information. Other sections include … (Provide the organization of your interview guide based on the research objectives).

3.5.3 Focus Group Discussion Method

Focus Group Discussion (FGD) is a method of data collection which is frequently used to collect in-depth qualitative data in various descriptive studies such as case studies, phenomenological and naturalistic studies). The main goal of FGD is to provide an opportunity for the participants to talk to one another about a specific area of study. The facilitator is there to guide the discussion.

Limitations of FGD: Despite the strength of FGD in soliciting in-depth information, the method is limited in terms of the following:

- Unlike questionnaires and interviews, the Focus Group Discussion method is not a good way to obtain numerical information,
- When interpreting the information gathered through FGD, one should remember that the consensus that usually forms in a group does not necessarily represent the opinions of all the members. Frequently, a few individuals tend to dominate the discussion and the less assertive

people tend not to contribute. Thus, FGD may not be a representative method of data collection.

Example

In a study conducted by Wanjohi (2014) entitled "The Plight of Youth in the 21st Century: Key Issues and Interventions in a Developing Economy's Perspective", the researcher used Focus Group Discussion (FGD) method to collect data from the participants.

*Focus Group Discussion guide was used to collect data from the parents and guardians. The total number of those who were selected to participate in the FGD included thirty two (n=32) parents and guardians. The researcher grouped the participants into 4 groups, each having 8 members. It was believed that a group between 7 to 10 individuals would provide a setting for effective communication and decision making (*Witkin & Altschuld, 1995*).*

The main purpose of the focus groups was to provide direction and support for the issues assessment. Focus group membership consisted of people throughout the selected parish, representing various occupations, gender and age groups. In addition, the focus groups assisted the researcher with provision of information on the issues and concerns facing the youth in the selected Diocese. FGD also helped in soliciting in-depth information on the solutions to the issues facing the youth in the Diocese.

3.5.4 Document Analysis

According to Babbie (2010), document analysis is "the study of recorded human communications, such as books, websites, paintings and laws" (p.530). Document analysis is a method of data collection which involves analysis of content from written documents in order to make certain deductions based on the study parameters. The method is mainly used in qualitative research as a method of qualitative analysis.

In document analysis, the researcher must indicate the document type (e.g., report, records etc), the kind of document it is (government or institution document), its dates, where written, author and title, the aim of the document, the factual information contained, why the document is a valuable source of information, how the document can be used, what the document does not answer and could be answered by the author should all be brought out (Marshall & Rossman, 1998). This is done in order to validate the documents.

One of the main advantages of document analysis is that the method facilitates the collection of a large amount of reliable information without necessarily questioning many people.

The method is however limited in terms of the following: It is based on secondary data and as such, is likely to have some errors. The analysis is also a laborious one and requires a certain level of expertise.

Example

In a study by Chesaro (2009), on the methods of teaching the mentally challenged and communication deficient learners in

public primary schools in Kenya, the researcher employed document analysis method.

In this study, the researcher dealt with the records of the learners with disabilities from special unit of the selected schools. These records were analyzed with the aim of retrieving key information about the mentally challenged and communication deficient learners. The details about the academic progress of particular learners and the difficulties experienced by learners in the learning process were extracted from the available documents.

3.5.5 Observation Method

Marshall and Rossman (1989) define observation as "the systematic description of events, behaviors, and artifacts in the social setting chosen for study" (p.79). This method forms the very foundation of science; it is the technique most closely related to everyday life. The method involves watching and recording the behaviour of individuals or groups, or the events that occur in a particular place; it enables the researcher to explain existing situations using senses (Erlandson, Harris, Skipper, & Allen, 1993). Observation is a powerful data collection method which is used in various studies like ethnographic and case studies (Kawulich, 2005).

There are two forms of observation that a researcher may adopt in a study, either participant observer or non-participant observer*:*

- As a *participant observer*, the researcher actively joins in the activities of the people he/she is observing. In such situation, the researcher may not take notes, for such may interrupt the normal flow of events. It is advisable to make notes or record the observation later.

- As a *non-participant observer*, the researcher avoids interacting with the group unless approached. If this happens, then the researcher tries to keep his/her interaction to the minimum while retaining social etiquette. The aim of this kind of observation is to remain neutral, not to influence the behaviour of those under observation. The role of non-participant observer is a passive one.

The major limitation of observation method is the researcher's bias. There are also other demographic characteristics of the researcher such as gender, sexuality, ethnicity, class, and theoretical approach which are likely to affect observation, analysis, and interpretation.

Despite its limitations, the main advantage of using the method is that it allows for the collection of richly detailed data and provides opportunities for viewing or participating in unscheduled events (DeMunck and Sobo, 1998). Further, as DeWalt and DeWalt (2002) observe, the method also "improves the quality of data collection and interpretation and facilitates the development of new research questions or hypotheses" (p.8).

3.6 Piloting of Data Collection Instruments

Pilot testing is establishing if the data collection instruments will work in the 'real world' by trying them first with a few selected people. The purpose of pilot testing is to ensure that everyone in the sample understands the questions. Pilot testing is done through addressing validity and reliability of data collection instruments.

3.6.1 Validity

Validity (accuracy) is the degree to which a test or an instrument measures what it purports to measure (D. Nachmias & C. Nachmias, 1996). While there are various types of validity, this guide briefly describes only two types, namely face validity and content validity:

- *Face validity:* Face validity is an estimate of whether a test appears to measure a certain criterion; it does not guarantee that the test actually measures phenomena in that domain. Face validity relates to whether a test appears to be a good measure or not.

- *Content validity*: Unlike face validity, content validity involves "the systematic examination of the test content to determine whether it covers a representative sample of the behavior domain to be measured" (Anastasi & Urbina, 1997 p. 114). A test has content validity built into it by careful selection of which items to include when developing it. In order to test content validity in a test (instrument), a panel of experts is used to review the test specifications and the selection of items (Foxcroft, Paterson, Le Roux & Herbst, 2004, p. 49). Based on the experts' review, the content validity of the test/instrument is improved.

Example

To check the content validity, the instruments were given to two research supervisors. Two other independent experts in education research from the Catholic University of Eastern Africa were given the instruments to validate. They checked on the instruments' content coverage based on the study parameters.

The instruments were also given to peers for further review to determine the internal consistency. Based on the experts' comments, the researcher made improvement on the instruments.

3.6.2 Reliability

Reliability is a measure of the degree to which a research instrument yields consistent results after repeated trials (O. Mugenda & A. Mugenda, 1999). An instrument is reliable when it can measure a variable accurately and obtain the same results over a period of time. Reliability is about the internal consistency of research instruments; it is the ability of research instruments to produce similar results time and again under consistent conditions. The most common measure of reliability is Cronbach's alpha, which is usually interpreted as the mean of all possible split-half coefficients (Cortina, 1993).

In order to determine the reliability of research instruments, pilot test is conducted. The instruments are administered to an 'independent sample' (a sample which is not part of the final sample) but which enjoys the same characteristics as the study sample. Reliability of the instruments is then estimated from the collected data.

Reliability may be estimated through a variety of methods that fall into two types: single-administration and multiple-administration. Single administration requires only one assessment while multiple-administration method requires that two assessments are administered.

Single-administration method include split-half method, which uses two halves of a measure, that is odd and even items as

alternate forms. The method involves administering a test to a selected sample of individuals, splitting the test in half (odds and evens) and correlating scores on one half of the test with scores on the other half of the test. The correlation between the two sets of scores is used to estimate the reliability of the instruments.

Multiple-administration method includes a test-retest method which involves administration of the instrument twice within a given time interval (could be after two weeks). The two sets of scores are correlated to establish the reliability of the instruments.

Cronbach's alpha reliability coefficient normally ranges between 0 and 1. However, there is actually no lower limit to the coefficient. The closer Cronbach's alpha coefficient is to1.0 the greater the reliability of the items in the scale. George and Mallery (2003) however, provide the following rules of thumb:
"_>. 9 – Excellent, _>. 8 – Good, _>. 7 – Acceptable, _>. 6 – Questionable, _>. 5 – Poor and _<. 5 – Unacceptable " (p. 231).

Example 1

Suppose you have a 30-items questionnaire, you can establish the reliability with the help of SPSS. The application comes in handy in processing the random subsets of items and in computing the resulting correlations.

Steps after coding the 30-item questionnaire using SPSS Ver 11.5: *Analyze>Scale>Reliability Analysis>Select all items and click the arrow button on the right> Select alpha>Click Ok.*

Note
Follow the same steps if you are using later versions of SPSS since there is no any tangible variation in the steps. (Table 3.2 shows reliability analysis output).

Table 3.2
Cronbach's alpha reliability coefficient for a 30-items Questionnaire

Reliability Analysis - Scale (Apha)

Reliability Coefficients

N of cases = 15.0 **N of items = 30**

Apha = .7396

The reliability was computed with the help of SPSS using Cronbach's alpha for a 30-items questionnaire. Upon computation, alpha of .7396 was obtained. The questionnaires were thus accepted as reliable (George & Mallery, 2003).

Example 2

In order to obtain reliability of the questionnaire, a test-retest method was used to pilot it in order to estimate the degree to which the same results could be obtained with a repeated measure of accuracy. The questionnaire (students') was administered to ten (10) respondents. These came from a population that shared similar characteristics but they were not

part of the study sample. The researcher in person collected the pilot data. After a period of two weeks, the same questionnaire was administered to the same group of respondents. Reliability coefficient between the two sets of scores was coded and analyzed with the help of Statistical Package for Social Sciences (SPSS) version 11.5. This yielded 0.7554 reliability coefficient. Thus, the questionnaire was accepted as reliable (George & Mallery, 2003).

3.7 Data Analysis Procedure

Data analysis is a process of inspecting, cleaning, transforming and modeling data with the goal of underlining essential information, suggesting conclusions, and supporting decision making (Ader, 2008). It is the process which follows after data collection. For the purpose of this guide, two data analysis procedure, namely quantitative and qualitative approaches are briefly highlighted.

3.7.1 Quantitative Data Analysis Procedure

Quantitative data are pieces of information gathered in a numeric form. The basic instrument for collecting quantitative data is questionnaire. There are a number of steps that are involved in analyzing quantitative data. These include data cleaning, data coding, data presentation and data interpretation and discussion.

Data Cleaning: Collected data pass through the process of cleaning to remove ambiguous elements. Content analysis is also applied to capture information from the open-ended questions (items) which are also subject to quantification in a quantitative research.

Data Coding: Coding refers to the process of assigning numerals or other symbols to answers so that responses can be put into a limited number of categories (Connelly, 2000). Coding is a vital step where the collected data is translated into values suitable for computer entry and statistical analysis. Variables are created from data with the aim of simplifying the analysis. Basically variables are meant to summarize and reduce data, attempting to represent the "essential" information (Schoenbach, 2004). There are various applications which help the process of data coding and analysis. These include spreadsheets like Excel and statistical packages like SAS and SPSS (Coolican, 1994).

Data Presentation: Tables and Figures are used to summarize the coded data. When using computer programs such as MS Excel or advanced statistical packages like SPSS, functions are provided within the program for summarizing data into either tables or figures (Schoenbach, 2004). Quantitative data are summarized in order to help the process of data presentation which involves the use of descriptive statistics such as frequencies, percentages, means and standard deviation. Data are also presented using inferential statistics such as t-tests, Analysis of Variance (ANOVA), Multiple Analysis of Variance (MANOVA), regression, factor analysis among other methods depending on the study design.

Data Interpretation and Discussion: Once the data are presented, the interpretation and discussion of the results follow**.** Data interpretation involves the provision of comments on the results obtained from the investigation. It is done based on the key findings of the study. Interpretation requires deep understanding of literature and issues under investigation. Such an understanding helps the researcher to avoid 'shallowness' and

sweeping statements in the interpretation and discussion. The interpretation of the data must be within the framework of what the data analyzed, suggests and not an exaggeration. Statements that are not justified by the data do undermine the credibility of what is being presented. As such, interpretation should be done in context and supported by literature.

Another key point to note when interpreting data is to avoid alteration or skewing of the set objective. Vested interest should not be shown in data interpretation in order to maintain the credibility of the results and the whole report. Therefore it is important to ensure that interpretation and discussion of results are based strictly on what is evident in the presented data.

3.7.2 Qualitative Data Analysis

Qualitative data are information gathered in a non-numeric form. Common examples of such data are: Interview guides, Field (observation) notes (notes taken in the field being studied), Video, Audio recordings, Images, Documents (reports, meeting minutes, e-mails).

Qualitative Data Analysis is the range of procedures involving various steps: from collecting data to some form of explanation, understanding or interpretation of the people and situations under investigation. QDA is usually based on an interpretative philosophy of a researcher.

There are various steps used in Qualitative Data Analysis. For the purpose of this guide, the following steps are briefly explained: data transcription, data coding, and data interpretation and generalization.

Data Transcription: Representation of audible and visual data into written form is an interpretive process which forms the first step in qualitative data analysis. Transcription involves transforming audible data into written words using a word processing package like Microsoft Word. Transcription involves judgments about what level of detail to choose, data interpretation and data representation. Different levels of detail and different representations of data are required for studies with differing objectives and methodological approaches.

Data Coding: For a qualitative study, coding involves looking for similar words or phrases in qualitative data, sorting and categorizing the phrases into themes. This is done in order to reduce a large volume of raw data into homogeneous groups (themes) to get meaningful relationship (Stake, 1999).

Interpreting and generalizing from the themes: After coding, data are presented under respective themes based on the study parameters. Interpretation about the phenomena in question is done in the light of the available literature.

Example

The following is an example of the analysis procedure in a mixed research approach which was used in a study conducted by Ndaita (2013) on the influence of principals' instructional quality assurance role on students' academic performance in the Quito West District in Kenya:

The study employed quantitative data analysis procedure where descriptive statistics such as frequencies, percentages, means and standard deviations were used. The Statistical Package for Social

Sciences (SPSS, Version 17) was used to run the descriptive statistics. Tables and figures were used to summarize data. The quantitative data were derived from the students' and teachers' questionnaires. The data were gathered about the principals' role in the application of pedagogy, curriculum implementation, provision of instructional materials, teacher training and development, challenges facing principals as instructional quality assurance leaders and measures to improve the principals' role of quality assurance.

Qualitative data were derived from the principals' and District Quality Assurance and Standards Officers' interview guides. The following steps were employed in the analysis: transcription of data, qualitative data coding which involved sorting, categorizing and grouping of the responses into themes. The themes basically fell under respective research objectives. The key responses based on the respective themes were cited verbatim. These, along with quantitative data, formed the basis of interpretation and discussion in the light of the reviewed literature.

3.8 Research Ethical Considerations

Ethical research is considered as one that does not harm and which gives informed consent and respects the rights of individuals being studied. Ethical issues form an important component of research as far as the conduct of researchers is concerned. This guide briefly explores the following ethical considerations which a researcher should consider when and/or before undertaking a study:

Voluntary participation (Informed consent): The principle of voluntary participation requires that people not be coerced into

participating in research. This implies that research should be conducted with one's informed consent. Participants in the research must be informed of what the study is all about so as to make their own judgment on whether to participate or not (Trochim, 2006).

The principle of anonymity: This principle implies that the participants remain anonymous throughout the study (Punch, 1994). The researcher should ensure that the respondents do not provide their names. They can be addressed according to their designation or they can be assigned labels.

Deception: According to Parton (1990), unethical behaviour would occur if the researcher failed to disclose the real purpose of the research fearing participants' refusal to participate in the study. In order to avoid the element of deception, the researcher should explain the purpose of the study to the respondents.

Confidentiality: Since certain information is confidential, researchers can only use confidential information if permission from the relevant research ethics committee is granted. Such committee takes a position based on the value of the research, the adequacy of methods and requires that the researcher gains informed consent from the participants.

Time Taken: Any kind of research consumes people's time. Use of other people's time can only ever be justified if the data collected yields helpful information. Poor research drawing on other people's time is always unethical.

Conclusion: Applications to ethics committees take time. Most committees meet quarterly and proposals must be submitted early enough. Further, gaining informed client consent could also be extremely time consuming. As such, adequate research preparation prior to data collection is required. Otherwise, the only other option is to rely on secondary data.

Example

In this study, the rights of the research participants will be ensured. This will be done based on ensuring that the principles governing research participants are followed. The researcher will ensure that the principle of voluntary participation which requires that people are not coerced into participating in research is followed. The informed consent of the participants will also be ensured by explaining the aim of the study and the procedures involved. The researcher will also guarantee the participants of the confidentiality. They will be assured that information provided will be used only for academic purpose. Further, the principle of anonymity will also be adhered to. The participant will remain anonymous throughout the study.

CHAPTER FOUR

REFERENCING STYLES

Contents

4.1 Introduction

Today, there are various citation styles that are in use. Different academic disciplines have differing priorities of what is important for the subsequent reader of an academic paper; different colleges, universities and publishers have differing rules about the citation of sources and referencing styles. For the purpose of this guide, APA style which is used mainly in the social sciences in various institutions is briefly discussed. The discussion is based on the APA manual, 6th edition, second printing resources by Angeli, et al. (2010). A few other referencing styles, namely Harvard, MLA, and Chicago/ Turabian are also briefly described.

Harvard Style

Harvard came originally from "The Bluebook: A Uniform System of Citation" published by the Harvard Law Review Association. The Harvard style and its many variations are used in law, natural sciences, social and behavioural sciences, and medicine.

MLA Style

MLA is an abbreviation for Modern Language Association. This style of writing is used mainly in English and the Humanities. To read more about MLA style, visit the official site at www.mla.org. The MLA publishes two handbooks of MLA style, namely the MLA Handbook for Writers of Research Papers and the MLA

Style Manual and Guide to Scholarly Publishing. Online Writing Lab (OWL) Purdue University Portal [https://owl.english.purdue.edu] offers examples for the general format of MLA research papers, in-text citations, endnotes/footnotes, and the Works Cited.

Chicago Style/ Turabian

Chicago is sometimes referred to as Turabian or Chicago/Turabian. It comes from the "Chicago Manual of Style" and the simplified version of it, "A Manual for Writers of Term Papers, Theses, and Dissertations", which **Kate Turabian** wrote. Chicago is used mainly in the social sciences, including history, political studies, and theology.

American Psychological Association (APA)

The American Psychological Association (APA) publication style started way back in 1928 as a writing style among the psychologist scholars and professionals. Over the years, the APA style gained acceptance in other scientific and non-scientific fields such as business and economics as a standard format for writing scholarly papers. Today, there are numerous scholarly journals, magazines, publishers and institutions that require authors to use APA style. APA style uses the author-date method of citation.

APA is an author/date referencing system common in the social sciences; it uses parenthetical in-text citations to refer readers to the list of references at the end of the paper. The date of the research is important in scientific disciplines, since it conveys how recent or indeed historical the material is, thus the author/'s last name and the year of publication appear within the text. Page

numbers are used in the text only in the case of direct quotations, not for paraphrased material.

To read more about APA style, visit the official site at www.apa.org. There are also simplified online resources of APA formatting and style at Purdue University Online Writing Lab at https://owl.english.purdue.edu. This proposal guide however outlines the most basic APA referencing guidelines that are commonly used.

4.2 General APA Document Guidelines

4.2.1 Headings

Most manuscripts can be handled with three levels of heading: Chapter titles, Major Headings, and Minor Headings. However, APA style provides up to 5-level headings:

Level 1 Heading:
Centered, Boldface, Uppercase and Lowercase Headings

Level 2 Heading:
Left-aligned, Boldface, Uppercase and Lowercase Heading

Level 3 Heading:
Indented, boldface, lowercase heading with a period.

Level 4 Heading:
Indented, boldface, italicized, lowercase heading with a period. Begin body text after the period.

Level 5 Heading:
Indented, italicized, lowercase heading with a period. Begin body text after the period.

4.2.2 In-text citations

In referring the title of a source within a paper, capitalize all words that are four letters long or greater within the title of a source: *Issues of Sustainability*. Exceptions apply to short words that are verbs, nouns, pronouns, adjectives, and adverbs: S*ustainability of Community*.

Note: In References list, only the first word of a title is capitalized. E.g., *Issues facing the sustainability of community based organizations*).

4.2.3 Short Quotations

If you are directly quoting from a work, you will need to include the author, year of publication, and the page number for the reference (preceded by "p."). Introduce the quotation with a signal phrase that includes the author's last name followed by the date of publication in parentheses.

Example: According to Wanjohi (2008),"Students often had difficulty using APA style, especially when it was their first time" (p. 100).

He stated, "Students often had difficulty using APA style" *(Wanjohi, 2008, p. 100),* but he did not offer an explanation as to why.

4.2.3 Long Quotations

Direct quotations that are 40 words, or longer, place them in a free-standing block of typewritten lines, and omit quotation marks. Starting on a new line, indent the quotation 1/2 inch from the left margin. Maintain double-spacing throughout. The

parenthetical citation should come after the closing punctuation mark.

Regarding APA style of writing, Wanjohi (2014) observes that:

> Students often had difficulty using APA style, especially when it was their first time citing sources. This difficulty could be attributed to the fact that a number of students only hear about APA style of referencing but lack tangible knowledge about how to use the style (p. 99).

4.2.4 Citing an Author or Authors

A Work by Two Authors: Name both authors in the signal phrase or in the parentheses each time you cite the work. Use the word "and" between the authors' names within the text and use the ampersand "&" in the parentheses ( ).

> Example: Research by Wanjohi **and** Dimba (2014) supports... (Wanjohi **&** Dimba, 2014)

A Work by Three to Five Authors: List all the authors in the phrase or in parentheses the first time you cite the source.

> (Wanjohi, Dimba, Gitau, Otieno & Musyoka, 2013)

In subsequent citations, only use the first author's last name followed by "et al." in the signal phrase or in parentheses.

> (Wanjohi et al., 2014)
> In *et al.*, *et* should not be followed by a period.

Six or More Authors: Use the first author's name followed by et al. in the signal phrase or in parentheses.

> Wanjohi et al. (2014) argued... (at the beginning) or (Wanjohi et al., 2014) at the end)

Organization as an Author: If the author is an organization or a government agency, mention the organization in the signal phrase or in the parenthetical citation the first time you cite the source.

> According to the Kenya Projects Organization, (2013),...

If the organization has a well-known abbreviation, include the abbreviation in brackets the first time the source is cited and then use only the abbreviation in later citations.

> First citation: (Kenya Projects Organization [KENPRO], 2013)
>
> Second citation: (KENPRO, 2013)

Two or More Works in the Same Parentheses: When your parenthetical citation includes two or more works, order them the same way they appear in the reference list, separated by a semi-colon.

> (Wanjohi, 2008; Gitau, 2011)

Authors With the Same Last Name: To prevent confusion, use first initials with the last names.

> (O. Mugenda, 2003; A. Mugenda, 1998)

Two or More Works by the Same Author in the Same Year: If you have two sources by the same author in the same year, use lower-case letters (a, b, c) with the year to order the entries in the reference list. Use the lower-case letters with the year in the in-text citation.

> Research by Wanjohi (2014a) illustrated that...
> of his students had difficulties with APA style.

Citing Indirect Sources: If you use a source that was cited in another source, name the original source in your signal phrase. List the primary source in your reference list and include the secondary source in the parentheses.

> Gitau argued that... (as cited in Wanjohi, 2014, p. 12).

Note: Avoid much usage of secondary sources. Try as much as possible to locate the original material, cite and reference the primary source.

4.2.5 References

The alphabetical Reference List at the end of the paper provides the necessary information for readers to locate and retrieve any source cited in the body of the text.
Key points to note about references:

a) The References are placed on a new page,
b) References title is centered,
c) All the citations (sources cited within the text) must be included in the reference list,
d) References are listed alphabetically using the sir name of the first author,

e) Hanging indentation is used when enlisting references,

f) Most references have the following key components: author, year of publication and source reference like title, place of publication and publisher,

g) Authors: Authors are listed in the same order as specified in the source, using surnames and initials. Commas separate all authors. When there are seven or more authors, list the first six and then use "et al." for remaining authors. If no author is identified, the title of the document begins the reference,

h) Year of Publication: In parentheses following authors, with a period following the closing parenthesis. If no publication date is given, use "n.d." in parentheses following the authors and

i) Source Reference: title, place of publication and publisher (for book); title, journal, volume (issue number), pages (for journal article). NB. Titles of books, titles and volume numbers of periodicals are italicized.

4.3 Referencing Books

General book referencing

Paloutzian, R. F. (1996). *Invitation to the psychology of religion* (2nd ed.). Boston: Allyn and Bacon.

Article or chapter in an edited book

Shea, J. D. (1992). Religion and sexual adjustment. In J. F. Schumaker (Ed.), *Religion and mental health* (pp. 70-84). New York: Oxford University Press.

Translated book

Abdul, P. S. (1951). *A philosophical essay on probabilities*. (F. W. Truscott & F. L. Emory, Trans.). New York, NY: Dover. (Original work published 1814)

Note**:** When you cite a republished work, (as in the example), it should appear with both dates: e.g., Abdul (1814/1951).

Edition

Herme, M. E., Kirui, R. S., & Nkrumah, R. D. (1997). *The battered child* (5th ed.). Chicago: University of Chicago Press.

Multivolume Work

Wairimu, P. (Ed.). (1973). *Dictionary of the history of ideas* (Vols. 1-4). New York, NY: Scribner's.

Book Review

Wakambala, R. F. (1993). Exposing the self-knowledge myth [Review of the book *The self-knower: A hero under control*, by R. A. Wicklund & M. Eckert]. *Contemporary Psychology, 38*, 466-467.

4.4 Referencing Journals

General format

Author, A. A., Author, B. B., & Author, C. C. (Year). Title of article. *Title of Periodical, volume number* (issue number), pages. http://dx.doi.org/xx.xxx/yyyyy.

Murzynski, J., & Degelman, D. (1996). Body language of women and judgments of vulnerability to sexual assault. *Journal of Applied Social Psychology, 26,* 1617-1626.

Journal article from database

Hien, D., & Honeyman, T. (2000). A closer look at the drug abuse-maternal aggression link. *Journal of Interpersonal Violence, 15,* 503-522. Retrieved May 20, 2000, from ProQuest database.

Journal article, Internet-only journal

Bergen, D. (2002, Spring). The role of pretend play in children's cognitive development. *Early Childhood Research & Practice, 4*(1). Retrieved February 1, 2004, from http://ecrp.uiuc.edu/v4n1/bergen.html

Article From an Online Periodical with DOI Assigned

Author, A. A., & Author, B. B. (Date of publication). Title of article. *Title of Journal, volume number,* page range. doi:0000000/000000000000 or http://dx.doi.org/10.0000/0000

Bittor, D. (2007). Toward effective poster presentations: An annotated bibliography. *African Journal of Marketing, 41*, 1245-1283. doi:10.1108/03090560710821161

Article in Journal Paginated by Volume

Journals that are paginated by volume begin with page one in issue one, and continue numbering issue two where issue one ended, etc.

Mwai, H. F. (1983). Fundamentals for preparing psychology journal articles. *Journal of Comparative and Physiological Psychology, 55*, 893-896.

Article in Journal Paginated by Issue

Journals paginated by issue begin with page one every issue; therefore, the issue number gets indicated in parentheses after the volume. The parentheses and issue number are not italicized or underlined.

Sale, J. E., Lohfeld, L. H., & Brazil, K. (2002). Revisiting the quantitative-qualitative debate: Implications for mixed-methods research. *Quality & Quantity*, 36(1), 43-53.

4.5 Referencing Electronic Sources

Web document

Wanjohi, A.M. (2010). Challenges facing SMEs in Kenya and the efforts in progress. Retrieved from http://www.kenpro.org/challenges-facing-smes-in-kenya-and-the-efforts-in-progress/

Web document from a university website

Degelman, D., & Harris, M. L. (2000). *APA style essentials.* Retrieved from Vanguard University, Department of Psychology. Website: http://www.vanguard.edu/faculty/

Stand-alone Web document (no author, no date)

Gender and society. (n.d.). Retrieved December 3, 2001, from http://www.trinity.edu/~mkearl/gender.html

Online Bibliographies and Annotated Bibliographies

Mbatia, R. (2005). *HIV/AIDS and HCV in Prisons: A Select Annotated Bibliography*. Retrieved from http://www.hc-sc.gc.ca/ahc-asc/alt_formats/hpb-dgps/pdf/intactiv/hiv-vih-aids-sida-prison-carceral_e.pdf

Online Lecture Notes and Presentation Slides

When citing online lecture notes, be sure to provide the file format in brackets after the lecture title (e.g. PowerPoint slides, Word document).

Halima, A. *Duality in consumer theory* [PDF document]. Retrieved from Lecture Notes Online Website: http://www.econ.iastate.edu/classes/econ501/Hallam/index.html

Online Presentation Slides

Chacha, K. F. (1998). *Federal regulations of chemicals in the environment* [PowerPoint slides]. Retrieved from http://siri.uvm.edu/ppt/40hrenv/index.html

Kindle e-books

Wanjohi, A.M., & Murimi, P. (2012). *Beyond all odds: The story of a peasant boy*. [Kindle DX version]. Retrieved from www.kd.Amazon.com

Online Book Reviews

Fatuma, S. (2008, April 27). Natural women [Review of the book *Girls like us*]. *The New York Times*. Retrieved from http://www.nytimes.com/2008/04/27/books/review/Zacharek-t.html?pagewanted=2

4.6 Referencing Thesis and Research Dissertations

In Database

Last name, initials of other names (Year). *Title of dissertation*. (Doctoral dissertation). Retrieved from Name of database. (Accession or Order Number)

Unpublished

Last name, A.M. (Year). *Title of dissertation*. (Unpublished doctoral dissertation). Name of Institution, Location.

Wanjohi, A.M. (2004). *Teacher and parental factors influencing academic performance in private secondary schools in Embu municipality.* (Unpublished postgraduate research). CUEA, Nairobi.

4.7 Referencing Article in a Magazine and Newspaper

Magazine

Wanjohi, A.M. (2008, April 9). Making the grade in today's schools. *Kenya Times, 135*, 28-31.

Newspaper

Unlike other periodicals, p. or pp. precedes page numbers for a newspaper reference in APA style. Single pages take p., e.g., p. B2; multiple pages take pp., e.g., pp. B2, B4 or pp. C1, C3-C4.

Kutwa, S. (2005, December 28). Calls made to strengthen state energy policies. The Country Today, pp. 1A, 2A.

4.8 Referencing Encyclopedia and Dictionaries

Baraza, P. G. (1993). Relativity. In *The New Encyclopedia Britannica.* (Vol. 26, pp. 501-508). Chicago, IL: Encyclopedia Britannica.

Often encyclopedias and dictionaries do not provide authors' names). When no name is present, move the entry name to the front of the citation. Provide publication dates if present or specify (n.d.) if no date is present in the entry.

Feminism (2013). In *Encyclopædia Britannica online*. Retrieved from http://www.britannica.com/EBchecked/topic/724633/feminism

4.9 Referencing Graphic Data

Give the name of the researching organization followed by the date. In brackets, provide a brief explanation of what type of data is there and in what form it appears. Finally, provide the project name and retrieval information.

African Research Journal of Education and Social Sciences (2014). [Graph illustration showing social economic issues facing youth]. Retrieved from http://www.arjess.org/wp-content/uploads/2013/11/wanjohi-figure2-social-economic-issues-facing-youth-2013.png

4.10 Referencing Tables and Figures

4.10.1 Tables

A common use of tables is to present quantitative data or the results of statistical analyses (such as ANOVA).

Key points to note about Tables:

- Tables must be referred to in the text,
- Each Table should begin on a separate page.

- Table heading is justified left on the first line and double spaced.
- Table title is justified left, italicized and written in Title Case (where the key words are in caps). See Example.

Table 4.1

Distribution of Students by Sex

Sex	Frequency	Percentage
Male	*20	50
Female	*20	50
Total	40	100

* The number of males and females was made equal to ensure equal representation of the respondents by sex (*explain symbols, abbreviations, etc.*)

Numbers. Number all tables with Arabic numerals sequentially. Do not use suffix letters (e.g. Table 3a, 3b, 3c); instead, combine the related tables.

Titles. Like the title of the paper itself, each table must have a clear and concise title.

Headings. Keep headings clear and brief. The heading should not be much wider than the widest entry in the column. Use of standard abbreviations can aid in achieving that goal. All columns must have headings.

Body. In reporting the data, consistency is key: Numerals should be expressed in a consistent number of decimal places that is determined by the precision of measurement.

Specific Types of Tables

There are certain tables, (product of inferential statistics) like ANOVA, Regression Analysis, Factor Analysis which are presented with lines. The following example is an Analysis of Variance (ANOVA) Table.

Table 4.2

Sample ANOVA Table

Between Groups	Sum of Squares	Df	Mean Square	F	Sig.
Within Groups	1.875105	4	0.748	1.746	0.292
	24.098	81	0.303	-	-
Significance level: 0.05					

4.10.2 Figures

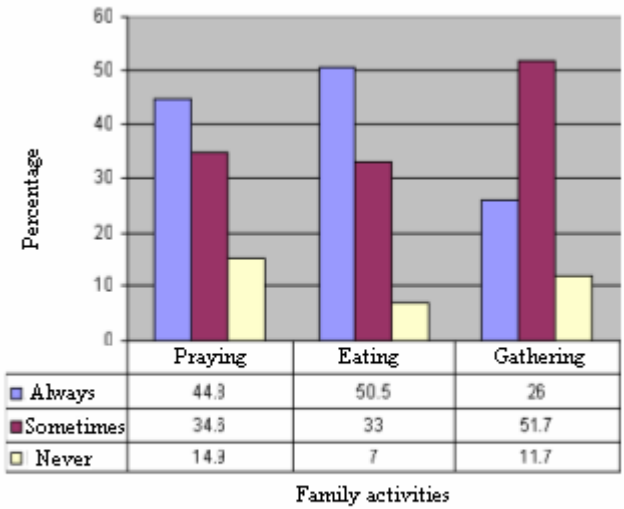
A common use of Figures is to present graphs, photographs, or other illustrations (other than tables).

Key points to note about Figures:

- The Figures that follow the Figure Captions page do NOT have page numbers,
- Figures should be numbered consecutively with Arabic numerals,
- Header: Figure Caption(s) is below, centered and not italicized,
- Figure title is justified left, italicized, only capitalizing only the first letter of the first word and any proper nouns and double spaced,

- Figures must also be simple and clean,
- Should show accurate plotting of data,
- Abbreviations and symbols must be cleared explained in a figure legend or figure caption and
- Should be mentioned in the text.

Sample APA Figure



	Praying	Eating	Gathering
Always	44.3	50.5	26
Sometimes	34.3	33	51.7
Never	14.3	7	11.7

Figure 4.1

Whether family prayed, ate or gathered

4.11 Conclusion

A major question one is likely to ask after passing various referencing/ citation styles is: Why cite or reference? The answer to this question lies in the following: to attribute prior work and ideas to the correct sources, to help the reader gauge the strength

and validity of the material the author has used and to uphold intellectual honesty and therefore avoiding **plagiarism** (Dickerson & Mouse, 2010).

When gaining familiarity with the rules highlighted, it is critically important, as unintentional mistakes can lead to charges of **plagiarism**, which is the uncredited use (both intentional and unintentional) of somebody else's words or ideas.
Today, there are online portals (websites) that you can use to check plagiarism. The most common is www.grammarly.com. This portal not only helps in checking the originality of the work but also grammar. One more site that you should visit as a student of research, practitioner or a scholar is Purdue University Online Writing Lab (http://owl.english.purdue.edu) which provides free access to Research and Citation resources.

The pursuit of knowledge, even for its own sake makes humans nobler. As students of research, trail it to the end; armored with weapons of Patience, Persistence, Pursuance and Passion.

This guide is a predecessor to the forthcoming Quantitative Data Analysis Guide

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California State University, Long Beach (n.d). *Experimental designs for research.* Retrieved from http://www.csulb.edu/~msaintg/ppa696/696exper.htm

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Coolican, H. (1994). *Research methods and statistics in psychology* (2nd ed.). London: Hodder & Stoughton.

Connlley, H. (2000). *Hard book for research synthesis*. New York: Russell Sage.

Cortina, J.M. (1993). What is coefficient alpha? an examination of theory and applications. *Journal of Applied Psychology, 78*(1), 98–104.

Creswell, J.W. (2003). *Research design: Qualitative, quantitative and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: SAGE Publications.

_____ (1998). *Qualitative inquiry and research design: Choosing among five traditions.* Thousand Oaks, CA: SAGE Publications.

_____ (1994). Research design: Qualitative and quantitative approaches. Thousand Oaks, CA: SAGE Publications.

Cox, B.G. (2013). *Target population*. Retrieved from http://srmo.sagepub.com/view/encyclopedia-of-survey-research-methods/n571.xml

Dehejia, R., & Wahba, S. (2002). Propensity score-matching methods for non-experimental causal studies. *The Review of Economics and Statistics, 84*(1), 151-161.

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APPENDICES

Contents

An Overview of Appendices

A common use of appendices is to present unpublished tests (such as questionnaires, interview guides) or to describe complex materials or documents. Details such as work plan, budget, maps and other useful notes are also included in the appendices.

Appendices allow you to include detailed information in your research project which would be distracting if retained in the main body.

Format of Appendices

Key points to note about the format of appendices:

- Pagination: Each Appendix begins on a separate page,
- Heading: If there is only one appendix, Appendix is centered on the first line. If more than one, flush left,
- If there is more than one appendix, use Appendix A (or B or C, etc.) and
- Type the appendix title in uppercase and lowercase letters.

Note

There is no single format of appendices. However, it is important to keep the format in line with the general APA style format guidelines.

Sample Appendices

Appendix A: Sample Questionnaire for the Project Committee

Dear Respondent,

The purpose of this questionnaire is to assist the researcher in finding out the major issues facing the sustainability of Community Based Projects in Mburutani area of Mbeere District of Kenya. Your responses will be highly appreciated. Bear in mind that there is no right or wrong answer. The provided information will be treated with the utmost confidentiality. You need not write your name.

[Name]
[Contacts]

Section A: Demographic Characteristics

Please tick against the appropriate option.

1. Sex

Male	[ ]
Female	[ ]

2. Level of your education:

Primary	[ ]
Secondary	[ ]
Tertiary	[ ]
University	[ ]

3. Qualification: _____

4. Position: _____

Section B: Project Monitoring and Evaluation Issues

5. What are project monitoring and evaluation issues affecting the sustainability of your project?

	Issues	Yes	No	Not Sure
a)	Failure to constantly monitor all projects Activities			
b)	Lack of summative project evaluation			
c)	Lack of access to experts in monitoring and evaluation of projects			
d)	Failure to implement evaluation Recommendations			

Section C: Project Leadership Issues

6. What are the project leadership issues facing the sustainability of your community based projects?

	Leadership Issues	Yes	No	Not Sure
a)	Lack of clear individual roles			
b)	Lack of clear governing rules			
c)	Lack of team spirit			
d)	Poor leadership orientation			
e)	Lack of transparency			
f)	Any other, specify			

Section D: Project Financing Issues

7. To what extent do the following issues affect the sustainability of your community based projects?

No	Issues	To a greater extent	To some extent	Not at all
a)	Lack of funding opportunities?			
b)	Lack of proposal writing skills			
c)	Lack of donor knowledge network			
d)	Lack of fund raising capacity			
e)	Any other (specify)			

Section E: Measures to address project sustainability issues

8. What measures can be taken to address the issues facing the sustainability of your project?

_____

_____

_____

_____

_____

Thank you for your cooperation

Appendix B: Sample Interview Guide for Project Managers

1. Sex

Male [ ]
Female [ ]

2. Level of your education:

Primary [ ]
Secondary [ ]
Tertiary [ ]
University [ ]

3. Qualification: _____

4. Position: _____

5. What are project monitoring and evaluation issues affecting the sustainability of your project?

_____
_____
_____
_____

6. What are the project leadership issues facing the sustainability of your project?

_____
_____
_____
_____

7. To what extent do the following issues affect the sustainability of your project?

_____
_____
_____
_____
_____

8. What measures can be taken to address the issues facing the sustainability of your project?

_____
_____
_____
_____
_____

Appendix C: Sample Work Plan

Activities	June, 2013	July, 2013	Aug., 2013	Sep - Oct. 2013	Nov., 2013	Dec., 2013
Gathering proposal background resources						
Developing Literature						
Developing methodology and data collection instruments						
Piloting data collection instruments						
Submission of proposal draft and Review						
Submission of proposal final draft, Defense and Review						

Appendix D: Sample Budget

Particulars	**Details**	**Amount (KES)**
Resource retrieval	Internet, database, journal portal subscription, library access	10,000
Data Piloting	Questionnaires and interview guides	7,500
Data Collection	Questionnaires and interview guides	15,000
Data Coding and transcription	Entering 50 questionnaires into SPSS and transcription of interview guides	5,000
Data analysis	Inferential statistics consultancy	5,000
Typesetting	Typing report	2,000
Editing and formatting	Checking Style, grammar, typographical errors	5,000
Printing	Draft and final reports	3,000
Photocopying copie s	Final report	1,500
Binding	Final report	2,500
Transport and communication	Traveling and phone calls	10,000
Miscellaneous (10 %)	10% of the total expenses	6,500
Total		**73,000**

Appendix E: Sample Map Showing KENPRO Office

Map showing the location of KENPRO registered office