CMED 236
Research Methods
Lecture 4: Research Proposal (Components, Introduction and Literature Review)

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Lecture Outline

- Definition
- Components
- Length of a proposal
- Preliminaries
- Introduction
- Literature Review

Definition

- A written presentation of an intended research specifying the problem, the method and resource implications the study.
- It is an overview of the intended research describing the design, financial requirements and the potential contributions of the proposed project to the existing body of knowledge.

- It describes all aspects of the intended research project.
- A well-prepared research proposal will act as an efficient and effective guide to the researcher while conducting the study.

Components

- A research proposal is made up of three sections:

1. Preliminaries:
   - Tittle/topic.
   - Table of contents.
   - List of tables.
   - List of figures.

2. The text:
   - The introduction.
   - Literature review.
   - Research methodology, forming chapters 1, 2 and 3 respectively.

3. Appendices:
   - Instruments.
   - Maps.
   - Letters of introduction.
   - Personnel to meet.
   - The budget.
   - Time framework.
   - Explanatory notes.

Chapter 1: Introduction

- Background of the study.
- Research problem(Problem statement).
- Justification/Significance
- Research objectives.
- Research questions/hypothesis.
- Scope of the study and limitations.
- Assumptions
- Theoretical framework.
- Conceptual framework.

Chapter 2: Literature Review

Chapter 3: Methodology

- Study area
- Study design
- Study population
- Sampling techniques
- Sample size determination

- Data collection techniques
- Quality control
- Ethical considerations
- Operational definitions of study variables
- Data processing and analysis

LENGTH OF A PROPOSAL

- The recommended length of a proposal for a master's dissertation, and for all other levels below Masters is 15 pages – excluding the appendices.
- For a Ph D is 25 pages excluding appendices.
- Different organizations have specific restrictions on length.

- It is important for a prospective researcher to consult the faculty, school, department or the accepting body before beginning to prepare a proposal.
- The limitation on the number of pages does not mean that important information be left out. Rather, it requires that the researcher must know not only what to write, but more importantly, how to write it.

Preliminaries

- Title, table of contents, lists of figures, tables and slides, abbreviations/acronyms, Abstract etc.

Identification of a research topic (Title)

- A research topic once identified provides the focus of the study and thus becomes the title of the report.
- The title should be clear and concise and should not contain more than 20 words.
- If more than 20 words, then it should contain two parts, with parts being separated by a colon (:)

Example

An assessment of factors influencing implementation of substance abuse curriculum among pupils in Primary schools: A case study of Nakuru District.

- Other information included on title page are: **name** and **address/reg.no.** of the researcher and **date** of submission of the proposal.

Table of contents

- This is the last item to be developed when the research proposal has been completed.
- A table of contents is like a map that guides the readers in locating various sections of the research report.
- It contains the chapter headings, main headings and subheadings and the corresponding page of each in the body of the document.
- This helps the reader to locate the desired sections quickly and easily.

List of Tables

- Tables are used to summarize information in a logical format or sequence, e.g. a researcher may wish to summarize the educational levels of various age cohorts in a frequency table.
- The information in a table needs not be quantitative; qualitative information can also be summarized in a table.

- A list of tables follows the same format as the table of contents.
- The number and title of each table appearing in the body of the report is listed together with the corresponding page number.
- This helps a reader to trace a particular table faster.

List of figures

- A figure is any pictorial representation used to clarify specific points in discussion, e.g. figures commonly used in research reports are graphs, charts, diagrams and photographs.
- The researcher should include a list of all figures that appear in the body of the report.
- This list should clearly give the number and title of the figure and the page number on which the figure is located in the report.

List of Abbreviations and Acronyms:

- An abbreviation is a short form word. An acronym is a contraction formed by taking the first letter of several words e.g. GOK Government of Kenya, MOH- Ministry of Health, etc.
- The researcher should give a list of all abbreviations and acronyms used in a report and explain in full what each abbreviation or acronym stands for. The following are pointers on the use of abbreviations.

1. When using acronyms, write in full the first time that phrase is used, thereafter, use the acronym.
2. Do not abbreviate military, religious and political titles.
3. Abbreviate units of measurement only when they are used often in a report, e.g. “Km” for Kilometers or “Yrs” for years.

4. Use only those abbreviations that the audience will understand.
5. Do not abbreviate days of the week or months.
6. Abbreviate time designations only when they are used with actual time, e.g. 4.30p.m.

Chapter 1: Introduction

- Introduction has several components that include background of the study, the problem statement, objectives, hypotheses or research questions and limitation of the study.
- The major role of the introduction section is to outline the gap or gaps that exist in the area of study and present the rationale of the study. This leads to the statement of the problem.

- The researcher should quote existing studies and theories to support the problem statement.
- Since there is a section in the research report that deals with previous studies, literature cited in this part of the document should be limited to the most relevant and current.

Background information

- The researcher should broadly introduce the topic under investigation and briefly discuss global, regional and national overview of the research topic.

Example – HIV prevention methods – globally, Africa and Kenya (regionally). This enables the reader to have an idea of what is happening regarding the area under investigation

Problem Statement

- Research begins when a researcher identifies a **research topic or a problem** and **follows methodically, step by step to study and investigate the problem.**
- A research problem refers to some difficulty which a researcher experiences in the context of either theoretical or practical situation and wants to obtain a solution for the same.

- The research topic identified is translated into a research problem or question and written as a statement.
- Research questions and hypothesis are formulated from the problem statement.
- ***Problems are special kinds of questions*** that arise in areas in which knowledge is needed.

- They may ask questions of practical concern or they may refer to the development or refinement of basic theory.
- In order to ask questions, there must be a reason. So something must be known about the problem for it to have meaning.

A good problem statement has the following features:-

1. *It is written clearly in a manner to capture the reader's interest immediately.*
2. *Specific problem identified is objectively researchable.*
3. *Indicates the scope of specific research problem.*
4. *Clearly stated importance of the study in adding new knowledge.*
5. *Must give purpose of the study cut/paste – problem statement.*

Procedure for identifying and Defining a Research Problem

Step 1

- **Problem situation:** Start with a simple statement of the problem situation. Write a small paragraph that identifies the problem
- **Discrepancy:** State what the discrepancy is between what is and what should be.
- **Problem Question:** Write down the central problem question.
- **Possible answers:** Write two or more plausible answers to the problem question.

Step 2

Add details as you review the literature, review theoretical concepts and investigate the problem in greater depth. Try to answer the following questions:

- What is the incidence and prevalence of the problem?
- What geographic areas are affected by the problem?
- Which population groups are affected by the problem?

- How was the problem studied in the past?
- What are the findings from other research studies?
- What has been done to overcome the problem?
- What seems to be the major unanswered questions about the problem?

Step 3

- Simplify the focus by identifying the most important aspects of the problem that are researchable.

Step 4

- Let one or more colleagues review your final statement identifying and defining the problem. Revise your statement if necessary in the light of the comments and suggestions received.

In summary, information to be included in the statement of the problem should contain the following:

1. A brief description of the socio-economic and cultural characteristics and an overview of the health status and health care system in the study area or district in as far as these are relevant to the research problem. Include a few illustrative statistics, if available to help describe the context in which the problem occurs.
2.

2. A concise description of the nature of the problem (the discrepancy between what it is and what it should be) and its magnitude, distribution, and severity (who is affected, where, since when, and what are the consequences for those affected and for the services)?
3. An analysis of the major factors that may influence the problem and a convincing argument that available information and knowledge is not sufficient to solve the problem.

4. A brief description of any solutions that have been tried in the past, how well they have worked and why the further research is needed.
5. A description of the scope of the study, the type of information expected to result from the research and how this information will be used to help solve the problem

How to Evaluate Research Problems

- Before the proposed research problem can be considered appropriate, several searching questions should be raised.
- Only when these questions are answered in the affirmative can the problem be considered a good one:

1. Is this the type of problem that can be effectively solved through the process of research? Can relevant data be gathered to test the theory or find the answer to the question under consideration?
2. Is the problem significant? Is an important principle involved/ would the solution make any difference as far as educational theory or practice is concerned?

3. Is the problem a new one? Is the answer already available?
4. Is the research on the problem feasible? After a research project has been evaluated, there remains the problem of suitability for a particular researcher. The student should ask: Although the problem may be a good one, is it a good problem for me? Will I be able to carry it through to a successful conclusion?

Research Objectives

- These should develop logically from the research questions.
- Accomplishing these project objectives will provide the researcher with the information required to answer the research question(s).

As far as the research objectives and hypotheses are concerned, the researcher needs to note that:

a) The objectives and hypotheses of a research study should flow logically from earlier sections identifying the problem situation, defining the parameters of the problem and stating the purpose.

b) The objectives describe the expected results arising from the study. Usually broad and specific objectives are stated.

c) These objectives serve to further narrow and focus the study and enable the researcher to formulate specific, testable hypotheses that specify the relationship of various variables.

- Objectives are statements of the expected results, achievements or outcomes of the study or measurable findings (statistics or statements of facts) relevant to the statement of the problem and hypotheses.
- Hence objectives should be clear, unambiguous and brief

Objectives must be **SMART**

- **S**pecific
- **M**easurable
- **R**easonable
- **A**chievable
- **R**ealistic
- **T**ime bound

- Objectives are very crucial in any research because:-

1. Objectives **determine the kind of questions to be asked**. This is because the questions asked should address the stated objectives. An objective may be addressed using only one question or more
2. Objectives **determine the data collection and analysis** procedures to be used

Broad Objectives

- Derived from purpose of the study
- Make the purpose of the problem clear
- Most research studies include a statement of broad objectives that describe the expected contributions arising from the study.
- Broad objectives relate the reasonable concerns; thus broad objectives contribute to the justification of why research on the problem is required.

Specific objectives

- Are derived from general objectives
- Make general objectives more clear
- They answer questions raised so as to solve the problem
- Consist of predictions of findings or results
- Predictions are broken down into components or ports that can be measured

- Objectives help the researcher keep to the scope of the study by defining the area of knowledge that the researcher is focusing on.

Research Questions

- These are questions the researcher would like answered by undertaking the study.
- Research questions are stated in question form while objectives are statements

Hypothesis

- Sometimes this may be optional, depending on the type of research proposal.
- A hypothesis is a statement about an expected relationship between two or more variables that permits empirical testing.
- It is the researcher's prediction regarding the outcome of the study.

- While general objectives identify the anticipated contributions arising from a study, and specific objectives specify what will be done or measured in the study, hypotheses specify the expected relationship among the variables.
- Study hypotheses serve to direct and guide the research.

- They indicate the major independent and dependent variables of interest.
- They suggest the type of data that must be collected and the type of analysis that must be conducted in order to measure the relationship among the variables.
- Hypothesis are derived from or based in existing theories, previous research, personal observations or experiences.

Stating the Hypothesis

- Hypothesis should be stated in declarative form.
- Hypothesis should describe a relationship between two or more variables.
- Hypothesis should be testable.
- Hypothesis should be operational (no ambiguity in variables or relationship proposed).
- Hypothesis should reflect a guess at a solution or outcome to a problem based upon some knowledge, previous research or identified needs.

Characteristics of a good hypothesis

i. Must be simple, clear and concise (under stable to many)
ii. Must be testable
iii. Must state clearly and briefly relationship between variables
iv. Must be based on sound rationale
v. Must be consistent with common sense or generally accepted truth (consistent with most known facts)
vi. Must be related to empirical phenomena

vii. Stated variables must be consistent with the purpose statement and objectives

viii. Amenable to testing within a reasonable time

ix. Limited in scope but be specific

x. Must explain facts that give rise to the need for explanation

Rationale (Justification)

- A justification is a **reason and the worth (important)** of studying a research problem.
- It informs the reader and supporter, how the target population would gain when the problem is solved.
- It also outlines the consequences of not solving the problem.
- The rationale must be strong enough to warrant the use of resources in carrying out the research.

Consider questions such as:-

i. What gaps in knowledge will the study address?
ii. Why is the study important?
iii. Why are there no previous studies of the topic
iv. What is the value of the study
v. What are the social, economic, political, technical and environmental considerations involved

Significance

- This section is expected to clarify the possible benefits of the research and to whom such anticipated benefits would be meant.
- All these should be clearly stated. In any way, there is no standard detail as to the number of benefits that a research project should have or its length.
- It can be arranged sequentially or itemized or paraphrased depending on the person's method of writing.

Scope and Limitation of the Study

- The scope of the study basically refers to the level of coverage of the research subject being investigated and the good statement of the problem will act as a helpful guide to doing this.
- If the problem had been properly stated at the beginning, it helps, certainly, in defining the scope of the research.

- The scope of the study is partially dependent on the title of the research project. If well formulated, the phrase of the title only does define the scope of the study and possibly, needs a little rider to make it clearer.
- The limitation of the study represents the things and issues that constituted challenges in the process of investigations.

Assumptions

- An assumption is **any important fact presumed to be true but not actually verified**.
- Assumptions are simply improved theories or explanations.
- Stating assumptions helps the researcher to justify the study and consequently the findings.

- Assumptions are only mere statements, which are frequently, not subjected to any testing. They are, more or less, ordinary statements that are taken for granted.
- They cannot replace the Hypotheses; yet, they tend to duplicate the Hypotheses, because they are fairly similar.

- a lot of research experts have suggested that if the study has hypotheses, then assumptions would no longer be needed.
- For a study with Research Questions only nevertheless, it is suitable to have assumptions, to act as a guide towards the achievement of the research objectives.

LITERATURE REVIEW

Definition

- *Literature review is a broad, comprehensive, in depth, systematic and critical review of scholarly publications, unpublished scholarly print materials, audiovisual materials and personal communications.*
- Critical review of literature refers to the process in which the researcher or reader examines the strength and weakness of any literature work.

- It is an evaluation of previous and current research in regard to how relevant and/or useful it is and how it relates to your own research.
- This information shades light on various **issues and ideas** that have been pursued together with the approaches used.

- Literature review is undertaken to **support, strengthen and give direction and vision to the study.**
- It is a big undertaking depending on the variety of the *sources of information in the study, study objectives, study questions and the background of the study area.*

- During the process of literature review the researcher learns about similar problems and the knowledge generated by others and then gathers relevant information through **systematic, careful and perceptive reading** paying maximum attention to issues raised by others in their studies.

The Purpose of Literature Review

a) Determine what has already been done in relation to the research problem being studied so as to: -

1. Avoid unnecessary and unintentional duplication.
2. Form a framework within which research findings are to be interpreted.
3. Enable researcher demonstrate his/her familiarity with the existing body of knowledge (leads to increased confidence).

b) Reveal strategies, procedures and measuring instruments useful in investigating the problem in question; avoid mistakes made by other researchers. Can gain methodological insight.

c) Suggest other procedures and approaches that the researcher can adopt.

d) Make researcher familiar with previous studies and thus facilitate interpretation of the results of the study. This will nurture fruitful comparison of findings from the studies.

e) Narrow down the scope of the study.

f) Determine new approaches and stimulates new ideas.

g) Expose futile research approaches which are consistently unproductive and unrealistic.

h) Suggestions and recommendations given by other researchers may give very crucial leads and ideas.

i) Pulls together, integrates and summarizes what is known in an area. It analyses and synthesizes different results revealing gaps in information and areas where major questions remain.

j) The literature review gives highly specific arguments and ideas in a field of study.

k) Literature review also gives ideas about the variables in the study, that means the information reveals variables and relationships considered important.

l) Literature review also gives meaning about relationships between variables of the study. That is, it offers ideas about how to conduct the study by exploring prior relationships in related studies.

m) It provides information on work done that can be extended or applied. Information obtained helps to avoid repeating past work.

Objectives

a) Determine what is **known** and **not known** about a subject, concepts or problem.

b) Determine **gaps, consistencies and inconsistencies** in the literature about the subject, concept or problem.

c) Describe the **strength** and **weaknesses** of designs/ methods and instruments used in earlier studies.

d) Discover **unanswered questions** about a subject, concept or problem.

e) Discover **conceptual traditions** used to examine problems.

f) Generate **useful research questions** or projects/activities for the discipline.

g) Determine **appropriate research design** (and data collection and analysis instruments) for answering the question.

h) Determine the need for replication of a well-designed study or refinements of a study.

i) Promote **development of protocols** and policies.

j) Uncover a new practice intervention of gain support for changing practice intervention.

Skills Needed For Literature Review

- The skills needed for literature review include: -

1. Critical thinking.
2. Critical reading skill and its process.

✓ Preliminary understanding.

✓ Analysis understanding.

✓ Synthesis understanding.

✓ Comprehensive understanding.

Critical thinking Skill

- Critical thinking is a highly rational and emotional process which involves rational examination of ideas, inferences, assumptions, principles, arguments, confusions, issues, statements, believes and actions.
- Critical thinking process involves: -

✓ Art of thinking so as to make clear, precise, accurate, relevant, constituent and fair conclusion / judgment.

- ✓ Constructive scepticism.
- ✓ Identification and removal of bias, prejudice and one sidedness of thought.
- ✓ Clarifying what one understands and what one does not understand.

Critical reading skill

- Use critical reading skill to evaluate research articles critically.
- Critical reading is an active, intellectually engaging process in which the reader participates in an inner dialogue with the writer.
- Actively look for assumptions, key concepts and ideas, reasons and justifications, supporting examples, parallel experiences.

- Critical reading involves 4 levels / stages of understanding: -

a) Preliminary understanding.
b) Comprehensive understanding.
c) Analysis understanding.
d) Synthesis understanding.

– **Preliminary understanding**

- Gained through quick and light reading of an article to familiarize with content or get general sense of the material.

– Comprehensive understanding

- This is skilled reading designed to increase understanding of the terms in relation to the context.
- It is facilitated by: -

✓ Reviewing all unfamiliar terms before reading for the second time.

✓ Clarifying any additional unclear terms.

- ✓ Reading additional sources as necessary.
- ✓ Stating main idea or theme of the article (in your own words or 1 or 2 sentences in an index card or on the photocopy.
- ✓ Make a copy of the article with your views and let your colleagues read it.

– Analysis understanding

- Breaks the content into parts so that each part of the study is understood and the critiquing process commences.
- Critique is the process of objectively and critically evaluating a research report, content for scientific merit and application to practice, theory and education.

- It requires some knowledge on the subject matter and knowledge of how to critically read and how to use critiquing criteria.
- The critiquing criteria and measures standards, evaluation guides, or question to be used to judge (critiqued).

– Synthesis understanding

- Synthesis is a combination of putting together, combing parts into wholes

Scope of Literature Review

- The scope of literature review is varied and is influenced by: -

✓ Area of study – a lot of studies done.

✓ Time.

✓ Resources.

✓ Type of study.

Steps in Carrying Out Literature Review

- Be very familiar with the library and internet.
- Make a lot of key words or phrases to guide your literature search.
- Get to sources of literature:

✓ Search preliminary sources - check the index and catalogues of books , articles, publications, ERIC (Educational Resource Information Centre – USA) – CIJE (Current Index to Journals in Education) and RIE (Resources In Education), MEDLINE, Internet.

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- ✓ Use secondary sources.
- ✓ Read primary sources.
- ✓ Synthesize the literature.
- Summarize the references on cards for easy organization of the literature.
- Once collected, summarize, organize and report the literature in an orderly manner (hardest part of literature review).

- Make an outline of the main topics or themes in order of presentation; Decide on number of headlines and sub-headlines required.
- Analyse each reference in terms of the outline made and establish when it will be most relevant.
- Studies with contrasting opinion / observations.

- Organize literature review from general to specific aspects of the study / problem.
- Brief summary of literature review and its implications.

Source of Literature

- Sources of information can be classified into two broad groups: - **Primary and Secondary sources**.
- The sources are conceptual and data based literature.
- The information available in writer documents can be grouped / categorized into 5 broad classes namely: -

✓ Facts, findings or results.

✓ Theory.

- ✓ Research procedure or methods.
- ✓ Opinions points of view or personal commentaries.
- ✓ Anecdotes or impression on a particular event or situation.

Primary Sources

- A primary source is a direct description of any occurrence by an individual who actually observed or witnessed the occurrence (the author's own account on a specific topic or event that s/he participated in.).
- The review of literature should be based on primary sources as much as possible because information from secondary sources may be altered by the writers.

- Primary sources such as research articles often do not explain terminology and theoretical principles in detail. Thus, readers of primary scholarly research should have foundational kowledge of the subject area.

- Examples of a *primary source* are:

1. Original documents such as diaries, speeches, manuscripts, letters, interviews, records, eyewitness accounts, autobiographies
2. Empirical scholarly works such as research articles, clinical reports, case studies, dissertations
3. Creative works such as poetry, music, video, photography

Secondary Sources

- Secondary sources include any publication written by an author who was not a direct observer or participant in the events described
- Secondary sources describe, summarize, or discuss information or details originally presented in another source

- This type of source is written for a broad audience and will include definitions of discipline specific terms, history relating to the topic, significant theories and principles, and summaries of major studies/events as related to the topic.
- Use secondary sources to obtain an overview of a topic and/or identify primary resources.

- Refrain from including such resources in an annotated bibliography for doctoral level work unless there is a good reason.
- Examples of a *secondary source* are:

✓ Publications such as textbooks, magazine articles, book reviews, commentaries, encyclopedias, almanacs

Good Reviewing Of Literature

- Do not conduct a hurried review as you may overlook important studies.
- Do not rely too heavily on secondary sources.
- When reviewing literature do not concentrate only on findings from journals but also look at the methodology used and measurement of variables.

- Check daily newspapers as they contain very educative current information.
- Copy references correctly in the first place so as to avoid the frustration of trying to retrace a reference later.

- READ ON REFERENCING


KABARAK UNIVERSITY
1 PETER 3:15
EDUCATION IN BIBLICAL PERSPECTIVE

THE END!