

2. Identification and delimitation of research problems

Objectives

- At the end of this chapter learners will be able to:
 - ⦿ Identify a research problem
 - ⦿ Select an appropriate research topic
 - ⦿ Write a research topic properly

WHAT IS A RESEARCH PROBLEM?

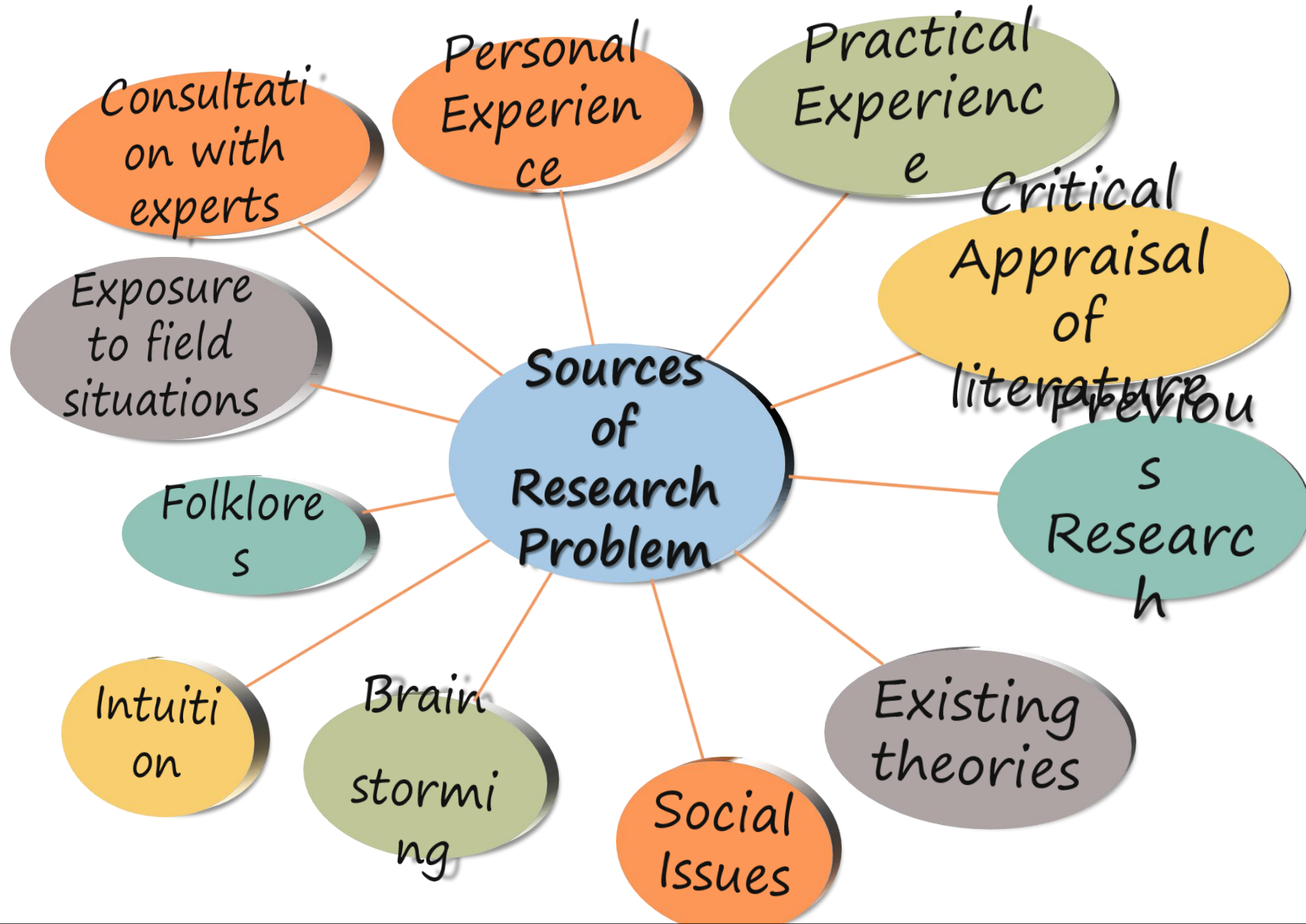
- A situation that needs a solution and for which there are possible solutions.
- May be described as
 - ⦿ an incongruence; a discrepancy between what is and what ought to be.
 - ⦿ the gap in knowledge that needs to be filled.

- A potential research situation arises when three conditions exist:
 1. A perceived discrepancy exists between what is and what should be.
 2. A question exists about why there is a discrepancy.
 3. At least two possible and plausible answers exist to the question.

IDENTIFICATION OF RESEARCH PROBLEM

- Identification of a research problem is the first & most important step in research process.
- Generally, a broad area is selected & then a broad topic is delimited or narrowed down to a specific one-sentence statement of the problem.
- This step of the research process is considered as the most difficult &

Sources of research problem



FORMULATION OF RESEARCH PROBLEM (Research topic selection)

Selection of a research areas

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graph TD; A[Selection of a research areas] --> B[Reviewing the literature & theories]; B --> C[Delimiting the research topic]; C --> D[Evaluating the research problem]; D --> E[Formulating final statement of research problem];
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Reviewing the literature & theories

Delimiting the research topic

Evaluating the research problem

Formulating final statement of research problem

1. Selection of a research area:

- ✧ Formulation of a research problem begins with selection of a broad research topic from personal experience, literature, previous research, & theories in which researcher is interested & has significance for a profession.
- ✧ For example, a researcher gets an idea to conduct a study on the female feticide.
- ✧ Therefore, he or she initially begins with such broad research topic.

2. Reviewing literature & theories:

- ✧ After getting a broad idea for research, he or she needs to review literatures & theories.
- ✧ Literature is reviewed to know what has already been done in this selected areas of research.
- ✧ Review of theories provides an opportunity for researcher to plan a research problem to contribute towards either testing or development of a theory/conceptual model.

3. Delimiting the research topic:

- ✧ In this step, researcher proceeds from a general area of interest to more specific topic of research to conduct a study.
- ✧ For example, initially a researcher decide to conduct a study on female feticide; later in this stage researcher limits it to specific research topic *'a study on perception of women about causes & prevention of female feticide in selected rural communities of district mehsana, Gujrat'*.
- ✧ In this stage, a researcher clearly identifies

4. Evaluating the research problem

- ✦ Once researcher is clear about the specific research problem, next the research problem must be carefully evaluated for its *significance, researchability, & feasibility*.
- ✦ Feasibility of the research problem should be evaluated for time, cost, availability of subjects & resources, administrative & peer support, ethical consideration, & researcher's competence & interest.

Selection of Research Topic

- Objective criteria

1. Relevance: priority, magnitude of problem
2. Avoidance of duplication
3. Feasibility: complexity, manpower, time, equipment, money...
4. Political commitment: interest and support to utilize results
5. Applicability (cost-effectiveness): availability of resources
6. Timeliness: urgency of data needed for making decision
7. Ethical acceptability

- Personal interest

Selection of Research Topic cont..

1. Relevance

- The topic should be a priority problem
- How large or widespread is the problem?
- Who is affected?
- How severe is the problem?

2. Avoidance of duplication

- Find out whether the suggested topic has been investigated before
- If topic has been researched, the results should be reviewed to explore whether major questions that deserve further investigation remain unanswered
- If not, another topic should be chosen

Selection of Research Topic cont..

3. Feasibility

- Consider complexity, manpower, time, equipment, money...

4. Political commitment

- interest and support of the local/national authorities
- This will increase the chance that the results of the study will be implemented
- However, in some circumstances, you may feel that a study is required to show that the government's policy needs adjustment
- In such circumstances, make extra effort to involve the policy makers at an early stage in order to limit the chance for

Selection of Research Topic cont..

5. Applicability of possible results/ recommendations

- Is it likely that the recommendations from the study will be applied?
- This will depend on:
 - Management capacity within the team
 - the blessing of the authorities
 - availability of resources for implementing the recommendations

Selection of Research Topic cont..

6. Timeliness (urgency)

- urgency of data needed for making decision

7. Ethical acceptability

- Consider the different ethical principles

Scales for rating research topics

- Relevance

1= not relevant

2= relevant

3= very relevant

- Avoidance of duplication

1= sufficient information already available

2= some information available but major issues not covered

Scales cont...

- Timeliness (urgency)

1= information not urgently needed

2= information could be used right away but a delay of some months could be acceptable

3= data very urgently needed for decision making

- Political acceptability

1= topic not acceptable to high level policy makers

2= topic more or less acceptable

3= topic fully acceptable

Scales cont...

- Feasibility

1= study not feasible, considering available resources

2= study feasible, considering available resources

3= study very feasible, considering available resources

- Applicability

1= no chance of recommendations being implemented

2= some chance of recommendations being implemented

Scales cont...

- Ethical acceptability
 - 1= major ethical problems
 - 2= minor ethical problems
 - 3= no ethical problems

Summary of the scales

Topic	Relevance	Avoidance of duplication	Feasibility	Political commitment	Applicability	Timeliness	Ethical acceptability	Total score
Topic 1								
Topic 2								
Topic 3								
Topic 4								

5. Formulating final statement of research problem (topic):

- ✧ After establishing the significance, researchability, & feasibility, then researcher finally formulates a final statement of a research problem.
- ✧ A statement of research problem could be in declarative or interrogative format

a. *Declarative format:*

In this format, a research problem is stated in declarative statement.

For example:

- 'A descriptive study on prevalence of bedsores among unconscious patients admitted in intensive care unit of Dessie referral hospital, Dessie'.
- 'An exploratory study on contributing factors of maternal mortality in selected rural communities of Kutaber district, S/Wollo'

Count...

b. Interrogative format:

In interrogative format, a research problem is stated in question form.

For example:

- 'What is the influence of level of hemoglobin on pin site infection among patients with external skeletal fixators admitted in orthopedic wards of Felege Hiwot Hospital, BD.
- 'What is the effect of ginger on morning sickness of pregnant women in selected urban communities of Kombolcha district, K/cha.

Topic contents

- The research topic or title should be specific and clear.
- The topic should indicate the WHO/WHAT, WHEN, WHY, WHERE and HOW clearly.
- It is the focus of your research.

Topic ...

- A good title is usually a compromise between **conciseness and explicitness**.
- Titles should be comprehensive enough to indicate the nature of the research.
- One good way to cut the length of titles is to avoid words that add nothing to a reader's understanding, such as "Studies on...", "Investigations...", or "Research on Some Problems in..."

Research Titles Formulation

Titles should:

- Describe contents clearly and precisely, so that readers can decide whether to read the report
- Provide key words for indexing

Titles should NOT:

- Include wasted words such as "studies on," "an investigation of"
- Use abbreviations and jargon
- Use "cute" language

Topic Selection- Summary

- Should communicate the purpose of the study
- Preferably less than 20 words
- Choose keywords from your research questions and incorporate them
- Keep the title tightly focused
- Don't make it cute or play on words (keep it academic)

Exercise

- Which of the topics are concise and explicit?
 - ⦿ An evaluation of the sensitivity and specificity of Acid Fast Bacilli staining in Amhara region.
 - ⦿ Predictors of smear positivity among People Living with HIV and co-infected with Micobacterium Tuberculosis in Bahirdar.
 - ⦿ Assessment of clinic attendance, improvement and adherence to drugs among chronic illness clinic patients in DBU.

Learners' tasks:

- *Identify a research topic that potentially will be used in the research work.*
- *Present a soft copy of the topic and justification.*