

PROBLEM AND SETTING

IT / CS RESEARCH METHODS

A. RESEARCH PROBLEM

Choosing a **research problem** is a critical step in the research process, as it sets the direction for your entire study. A well-defined research problem should be **meaningful, feasible, and relevant** to your field of study.

1. Identify Your Interests
2. Review Existing Literature
3. Consider Relevance

a. CHOOSING RESEARCH PROBLEM

EXTERNAL CRITERIA

- Novelty and avoidance of unnecessary duplication
- Importance in the field
- Availability of data
- Choice of Method
- Facilities and equipment
- Ethical Considerations

INTERNAL CRITERIA

- Interest/Experience of the researcher
- Training / Qualification/ Competency
- Cost
- Time

b. ELEMENTS OF RESEARCH PROBLEM

Who: Who refers to the participants or subjects of the research study. It involves identifying the individuals, groups, or entities that will be involved in the research. Considerations include demographics, characteristics, and any relevant inclusion or exclusion criteria.

b. ELEMENTS OF RESEARCH PROBLEM

Why: Why delves into the rationale and purpose of the research. Researchers should articulate why the study is important, the significance of the research problem, and the intended contributions or implications of the study.

When: When involves the timeframe and timing of the research. Researchers need to establish when data will be collected, the duration of the study, and any critical time-sensitive aspects of the research.

b. ELEMENTS OF RESEARCH PROBLEM

Where: Where concerns the location or context of the research. Researchers should clarify where data will be collected, where the study will take place, and any relevant environmental or contextual factors that may influence the research.

What: What relates to the research problem or question. It encompasses defining the central issue or topic of the study, specifying research objectives or hypotheses, and determining the scope and focus of the research.

B. GUIDELINES IN WRITING THE TITLE AND FORMULATION OF GENERAL AND SPECIFIC PROBLEMS

*Writing an effective research title and formulating general and specific research problems are crucial steps in the research process. A **well-crafted** title and precisely formulated research problems provide **clarity**, **focus**, and a **strong sense of purpose** for your study.*

a. Writing a Research Title

1. Be clear and concise
2. Reflect the essence of the study
3. Avoid ambiguity
4. Use keywords
5. Be engaging
6. Avoid excessive length
7. Include variables and key concepts
8. Consider the tone

b. Formulating General and Specific Research Problems

1. Start with a General Problem
2. Conduct a Literature Review
3. Narrow the Focus
4. Use Clear and Specific Language
5. Be Testable and Measurable
6. Consider the Research Type
7. State the Problem as a Question or Statement
8. Align with Objectives

C. IDENTIFYING VARIABLES

01

Qualitative

attribute

02

Quantitative

numerical data

03

Independent

does not require the
existence or presence
of a dependent variable

04

Dependent

presumed to change as
another variable
changes

05

Regular

input-output
transformation model.

06

Intervening

come in between
variables

D. HYPOTHESIS

RESEARCH HYPOTHESIS

Example:

Sub-problem: What is the relation between IQ and achievement?

Hypothesis: IQ and achievement are positively related.

STATISTICAL HYPOTHESIS

Examples of a null hypothesis:

1. There is no significant relationship between IQ and achievement.
2. There is no significant difference between educational attainment and teaching effectiveness.

E. SCOPE AND DELIMITATION

In research, the terms "scope," "limitation," and "delimitation" refer to specific aspects of a study's design and boundaries.

SCOPE

If conducting research on the impact of social media on teenagers' mental health, the scope might include aspects such as social media usage patterns, psychological well-being, and specific age groups.

LIMITATION

A research study on the impact of a new teaching method may acknowledge limitations due to a small sample size, lack of access to a diverse population, and potential biases in the data collection.

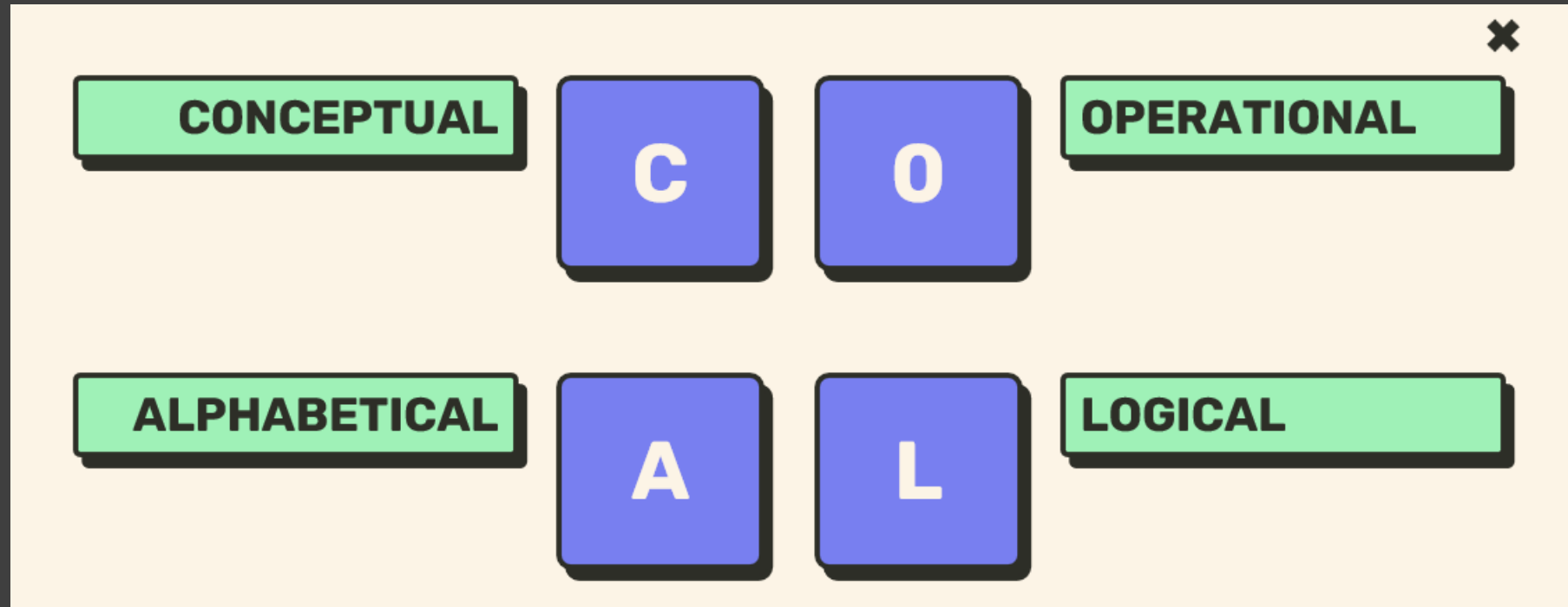
DELIMITATION

In a study on the effects of climate change on agriculture, delimitations may include focusing only on a particular region, specific crop types, and a specific time period within the last decade.

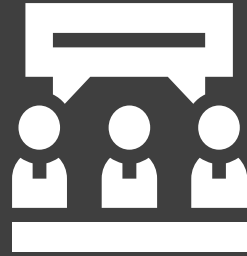
F. SIGNIFICANCE OF THE STUDY

- 01** The intended or target beneficiaries of the study.
- 02** The specific benefit each of the intended clients/end-users may get out of the result of the investigation.
- 03** The contribution of the study to a body of knowledge.

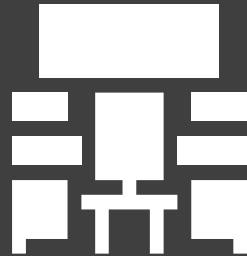
G. DEFINITION OF TERMS



H. RELATED LITERATURE



RELATED LITERATURE



RELATED STUDIES

END OF PRESENTATION

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