

FROM PROBLEM STATEMENT TO RESEARCH QUESTIONS



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Objectives

- Understand and develop all of the **Chapter 1: Introduction** sections.
- Develop and articulate research questions that are related to the purpose of the study.

Chapter 1: Introduction

Statement of the Problem

This should include (a) a clear statement that the problem exists, (b) evidence that supports the existence of the problem, (c) evidence of an existing trend that has led to the problem, (d) definitions of major concepts and terms (this can be provided below in a subsection), (e) a clear description of the setting, (f) probable causes related to the problem, and (g) a specific and feasible statement.

The Topic

This is a brief description of the proposed area of study. Include at least two sentences.

The Research Problem

This is an area of conflict, concern, or controversy (a gap between what is wanted and what is observed). Include the most relevant reference that supports the claim.

Chapter 1: Introduction (cont.)

Background and Justification

The evidence and relevance from the literature and published or archival data showing the problem exists. Include at least two references. You should also have a theoretical basis for the study.

Deficiencies in the Evidence

Include a brief discussion that details the area of need (in relation to the problem) and the deficiency or lack of evidence in the literature.

Audience

Discuss who is affected and who benefits.

Definition of Terms

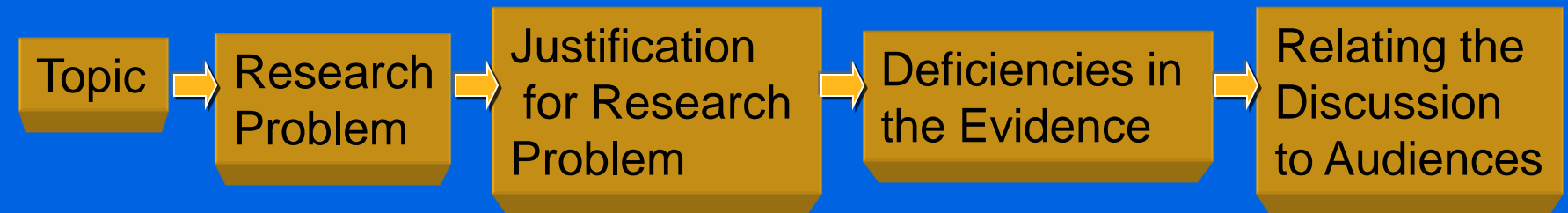
Provide complete scientific definitions and appropriate references if necessary. Include as many terms or variables as needed.

Purpose of the Study

Create a sentence that begins with “The purpose of this study is . . .”
Clearly identify and define the central concepts or ideas of the study.

Example of the Flow of Ideas in the Problem Statement

Flow of Ideas

Subject area

- Concern or issue
- A problem
- Something that needs a solution

- Evidence from the literature
- Evidence from practical experience

- In this body of evidence what is missing or what do we need to know more about?

- How will addressing what we need to know help researchers, educators, policy makers, and other individuals?

An Example

Ethical issues in colleges

Ethical violations among football recruiters

- Gap in the literature
- Reports of violations

Description identifying and characterizing violations

- Assessing violations
- Helps recruiters develop better ethical standards
- Helps athletes understand ethical issues

The Topic

- is introduced in the first paragraphs.
- includes the general subject matter.
- must be introduced so that the reader can relate to it.

Topic Selection Considerations

- Personal interest
- Organizational support
- Ethical issues
- Relevance of the study
- Contribution to the field
- Time constraints
- Breadth and scope
- Economic factors

Sources of Topic Selection

- *ERIC, PsycINFO, Medline*
- Journals, books, and dissertations in your field
- Conferences, workshops, presentations
- Recommendations about future research
- Courses
- Workplace
- Expert consultations
- Online library services

Why the Research Problem Is Important

- It establishes the importance of the topic.
- It creates reader interest.
- It focuses the reader's attention on how the study will add to the literature.

Stating the Research Problem

- State the problem in the opening paragraph (i.e., something that needs a solution)
- Identify an issue
 - Research-based research problems
 - Practical problems
- Reference the problem using the literature
- Common pitfall: defining the problem based on the solution

How the Problem Differs From Other Parts of Research

- A **research problem** is an educational issue or problem in the study.
- A **research topic** is the broad subject matter being addressed in a study.
- A **purpose** is the major intent or objective of the study.
- **Research questions** are those that the researcher would like answered or addressed in the study.

Justifying the Importance of the Research Problem

- Justification based on what other researchers have found
- Justification based on personal or workplace experiences
- Justification based on the experiences that others have had in the workplace

Locating the Research Problem

- Read the opening paragraphs of existing studies for one or more of the following:
 - What is the issue or problem?
 - What controversy leads to the need for a study?
 - What concern is being addressed *behind* the study?
 - Is there a sentence such as, “*The problem being addressed in this study is...*”?

Determining Whether a Problem Should Be Researched

- Can you study the problem?
 - Do you have access to the research site?
 - Do you have the time, resources, and skills to carry out the research?
- Should you study the problem?
 - Does it advance knowledge?
 - Does it contribute to practice?

Determining Whether a Problem Should Be Researched (cont.)

- Will your study fill a gap or void in the existing literature?
- Will your study replicate a past study but examine different participants and different research sites?
- Will your study extend past research or examine the topic more thoroughly?
- Will your study give voice to people not heard, silenced, or rejected in society?
- Will your study inform practice?

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Identifying Deficiencies in the Evidence

- What do we still need to know?
- What else do we need to know to improve practice?

Identify the Audience

Ask the following question: *Who will profit from reading our study?*

- Other researchers
- Practitioners
- Policy makers
- Special populations (e.g., parents)

Elements of a Quantitative Purpose Statement

- A **quantitative purpose statement** identifies the variables, their relationships, and the participants and site for research
- Guidelines for writing
 - Use a single sentence.
 - Use wording such as *The purpose of this study*
 - If using a theory, state the theory you plan to test.
 - Use quantitative words (e.g., “relate,” “compare,” “describe”) to describe the relationships between variables.

Elements of a Quantitative Purpose Statement (cont.)

- Guidelines for writing (cont.)
 - Independent variable (1st position in sentence)
 - Dependent variable (2nd position in sentence)
 - Control and/or mediating variable (3rd position in sentence)
 - Research site
 - Participants

Quantitative Research Questions

- Types of quantitative research questions
 - Describe results of your variables.
 - Compare two or more groups on the independent variable in terms of the dependent variable.
 - Relate two or more variables.
- Guidelines for writing
 - Pose a question.
 - Begin with “how,” “what,” or “why.”
 - Specify the independent, dependent, and mediating or control variables.
 - Use the words *describe*, *compare*, or *relate* to indicate the action or connection among the variables.
 - Indicate the participants and the research site for the study.

Designing Qualitative Purpose Statements and Research Questions

- Understand how these statements and questions differ from quantitative research.
- Understand the role of a central phenomenon in qualitative research.
- Understand qualitative research as an emerging process.

Differences Between Quantitative and Qualitative Purpose Statements and Research Questions

Quantitative—more closed

1. Probable cause/effect
(Why did it happen?)
- Use of theories (Why did it happen in view of an explanation or theory?)
- Assess differences and magnitude
(How much happened?)
(How many times did it happen?)
(What were the differences among groups in what happened?)

Qualitative—more open ended

- Descriptive (What happened?)
- Interpretive (What was the meaning to people of what happened?)
- Process oriented (What happened over time?)

Explaining or Predicting Variables Versus Exploring or Understanding a Central Phenomenon

Quantitative

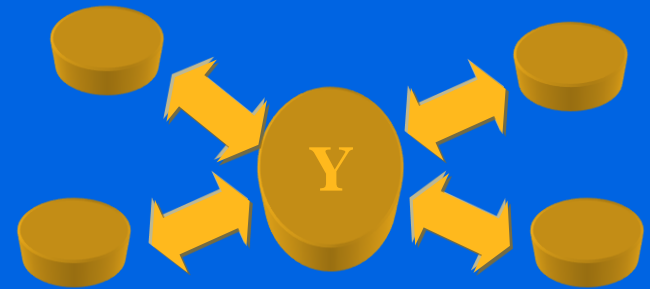
**Explaining or Predicting
Variables**

X → Y

The independent variable (X) influences a dependent variable (Y)

Qualitative

**Understanding or
Exploring a Central
Phenomenon**



In-depth understanding of Y; external forces shape and are shaped by Y

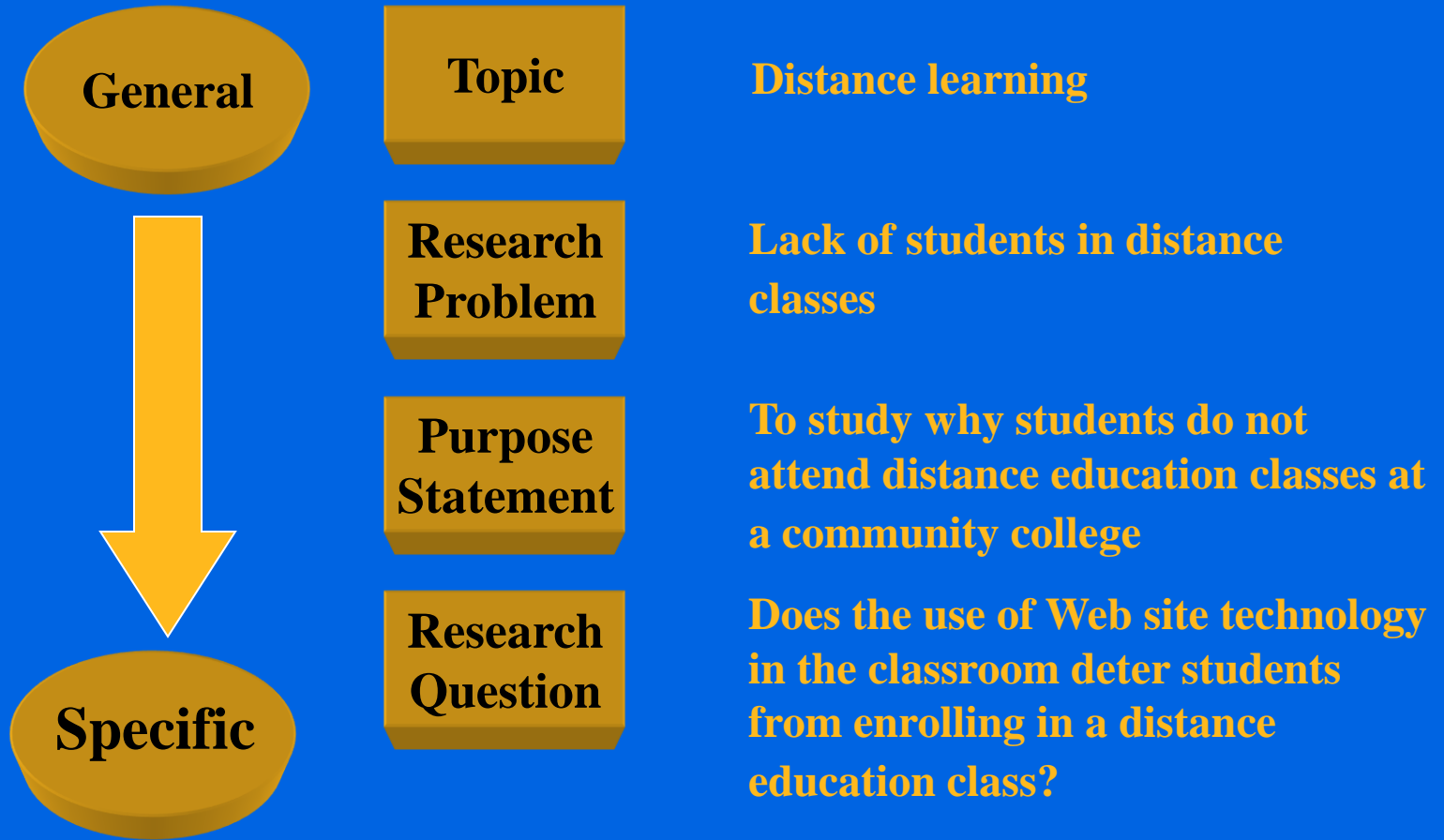
Elements of Qualitative Purpose Statement

- A single sentence
- A statement such as,
“The purpose of this study”
- The central phenomenon
- A statement identifying the type of qualitative design
- Qualitative words (e.g., “explore,” “understand,” “discover”)
- The participants
- The research site

Types of Qualitative Research Questions

- **Central question** is the overarching question you explore in the research study.
- **Subquestions** divide the central question into smaller, specific questions.
 - Issue subquestions: Narrow the focus of the central question into specific issues.
 - Procedural subquestions: Indicate the steps to be used in analyzing the data in a qualitative study.
- **Interview questions** are asked during your interview and are based on your subquestions and central question.

Differences among the Topic, Problem, Purpose, and Questions



Example

Statement of the Problem

The Topic

Distance education via online platforms is a rapidly growing method of education delivery due to its convenience, wide reach, relatively low cost, and ability to support the achievement of learning objectives. Whether the platform is Blackboard, WebCT, Moodle, Angel, or some other learning management system, online education utilizes a variety of common learning tools including discussion boards, drop boxes, automated testing, and wikis. Chief among these tools are live online sessions.

The Research Problem

Live online sessions may be delivered in virtual classrooms from Adobe Connect, Elluminate, GoToMeeting, Wimba, or other software programs. Regardless of the software used, student attendance at live online sessions, especially optional ones, can be unpredictable at best. It is a common complaint among the online faculty at a university in the south that many, oftentimes most, of their students do not attend the live online sessions. This study will address the problem of low student attendance at nonmandatory virtual classroom meetings in online college courses.

Background and Justification

Offir, Lev, and Bezalel (2008) found the interaction level in a synchronous class, also known as web conferencing, to be a significant factor in the effectiveness of the class. Other researchers describe “the power of a synchronous online system to empower students in conversation and expression (McBrien, Jones, & Cheng, 2009). However, if students do not attend, then they cannot interact nor express themselves.

Deficiencies in the Evidence

According to Skylar (2009), “research concerning the use of newer multimedia technologies, such as interactive synchronous web conferencing tools, is in its infancy and needs further and continued study” (p. 82). McBrien, Jones, and Cheng (2009) stated that “more studies are needed to explore students’ perceptions of the synchronous learning experience.” A variety of studies have explored the differences in functionalities of the various platforms (Kenning, 2010; Lavolette, Venable, Gose, & Huang, 2010), but they did not get to the heart of why students do or do not attend.

Audience

This study will benefit college and university administrators who can create or revise policies based upon the results. Administrators may even decide to change virtual classroom providers. Faculty may benefit if results indicate a change is needed in their own practices. Finally, the study will benefit online students whose learning experiences will be improved by the findings.

Purpose of the Study

The purpose of this qualitative study is to explore absenteeism from nonmandatory synchronous sessions in the virtual learning environment, Wimba Classroom, by undergraduate and graduate students in online courses at a southern university.

Research Questions

The central question is, What are students' attitudes regarding nonmandatory synchronous sessions in Wimba at a southern university?

The following are subquestions:

1. What are students' reasons for attending nonmandatory synchronous sessions in Wimba?
2. What are students' reasons for not attending nonmandatory synchronous sessions in Wimba?
3. What actions could the university or its instructors take that would motivate students to increase their attendance at nonmandatory synchronous online sessions?

Student Examples

- Topic
- Research Problem
- Purpose Statement
- Research Question