

Nursing Research Series

Essentials of Science: Methods, Appraisal and Utilization




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Part 4 of 20

**Development of a Research
Problem and Question**




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Objectives

By the completion of this module, the participant will be able to:

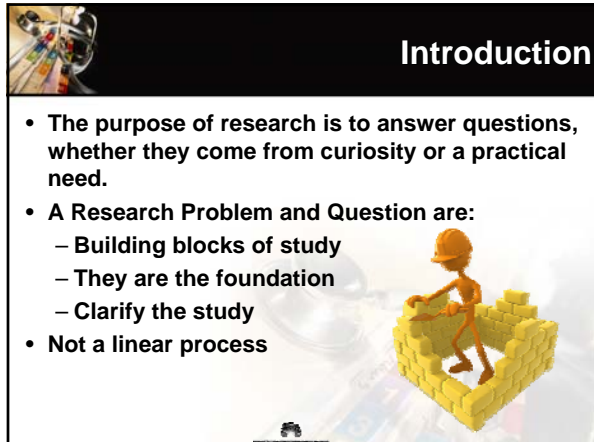
- Identify the difference between a problem and a purpose statement
- Identify a researchable question
- Draft a problem and purpose statement



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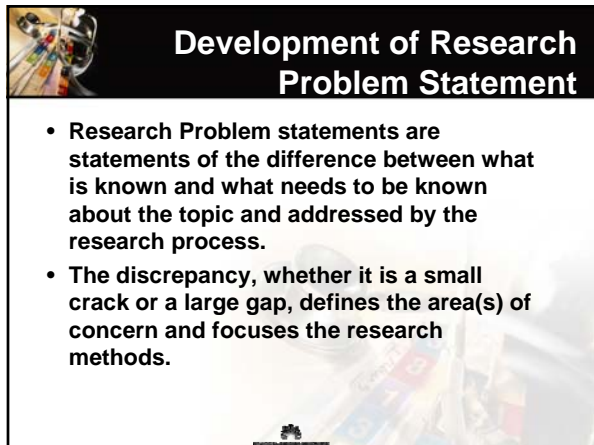
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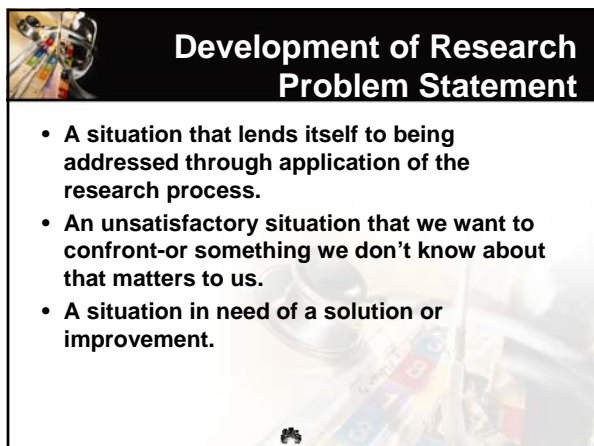
Introduction

- The purpose of research is to answer questions, whether they come from curiosity or a practical need.
- A Research Problem and Question are:
 - Building blocks of study
 - They are the foundation
 - Clarify the study
- Not a linear process



Development of Research Problem Statement

- Research Problem statements are statements of the difference between what is known and what needs to be known about the topic and addressed by the research process.
- The discrepancy, whether it is a small crack or a large gap, defines the area(s) of concern and focuses the research methods.



Development of Research Problem Statement

- A situation that lends itself to being addressed through application of the research process.
- An unsatisfactory situation that we want to confront-or something we don't know about that matters to us.
- A situation in need of a solution or improvement.

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Development of Research Problem Statement

- Whereas a research *topic* is simply a broad area of interest, a research *problem* is a statement about what is problematic about the topic of interest in a specific population.
- Most problem statements are explicitly stated, however some may be inferred.



Developing Research Problems: 3 Tasks

- Finding
- Refining
- Evaluating = Researchability






Finding Research Problems

- Most nurses use more than one source
 - clinical practice
 - literature
 - colleagues
 - students
 - funding priorities (both private and public)



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Refining Research Problems

- A fluid and “narrowing” process involving:
 - Asking questions
 - What is wrong with _____?”
 - How often does _____ occur?”
 - What factors are related to _____?”
 - How effective is _____?”
 - Reviewing the literature
 - Talking with others



Evaluating= Researchability

- Significance + Feasibility =Researchability
 - Significance is the “who cares?” factor
 - Feasibility directly impacts your success factor






Feasibility

- Resource checklist:
 - Time
 - Subjects
 - Equipment & facilities
 - Research expertise
 - Cooperation of others (sponsors, cheerleaders...)
 - Money
 - Personal interest
 - Ethics




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Development of Research Problem Statement


- The problem statement, explicitly stated or inferred, is usually located at the beginning of the research report or proposal. This could be in the introduction or the review of the literature.
- Problem statements can be several sentences long and are written as questions or statements.
- Well written statement contain clear, concise, well-defined components.



Development of Research Problem Statement

An example of problem statement:

- “Most research examining Advanced Practice Nurse (APN) effectiveness in primary care has focused on comparing physician and APN practices rather than examining specific patient outcomes”



Development of a Research Purpose Statement

- A Purpose statement is a declaration of intent
- Indicates the general goal of the study and often describe the direction of inquiry
- They contain clear, concise, well-defined key variables to be studied, their possible interrelationships and the nature of the population to be studied

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Development of a Research Purpose Statement

- Purpose statements are written as declarative, objective statements.
- They are easily identified in a research proposal because of the words:
 - Aim
 - Goal
 - Intent
 - Objective
 - Purpose







Development of Research Purpose Statement

An example of purpose statement:

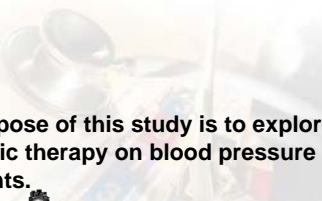
- “The goal of this quasi-experimental study was to examine the effect of a nursing intervention of guided health imagery on smoking cessation in an adult population”





Purpose Statement Verbs

- When developing a purpose statement, a researcher should use unbiased verbs such as:
 - Compare
 - Describe
 - Develop
 - Discover
 - Explore
 - Test
 - Understand
- Example: The purpose of this study is to explore the effects of music therapy on blood pressure in adult ICU patients.



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Purpose Statement Verbs

- The researcher should avoid biased verbs such as:
 - Demonstrate
 - Prove
 - Show

- Example: The purpose of this study it is prove that music therapy improves blood pressure in adult ICU patients.

Problem vs. Purpose Statements

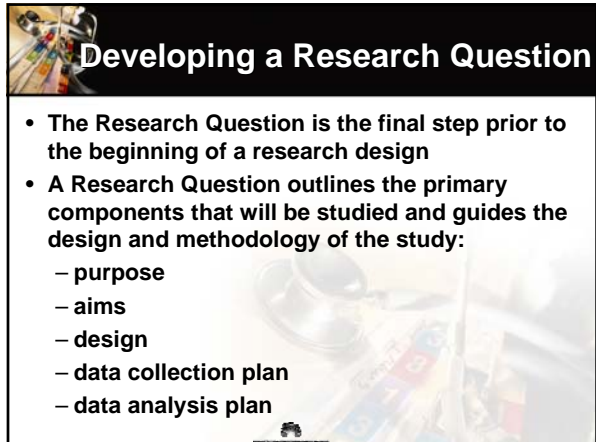
Problem Statement	Purpose Statement
Description of the gap in knowledge	Design of the Study
Concepts that are part of the problem	Variables to be studied
	Population to be included
	Setting of the study

Problem vs. Purpose Statements

- Research Problem Statements are declarations of disparity (**why**) and research purpose statements are declarations of intent (**what**)
- Although Research problem and purpose statements clarify and support each other, they represent different levels of moving from a general focus or interest to the development of a specific Research Question.

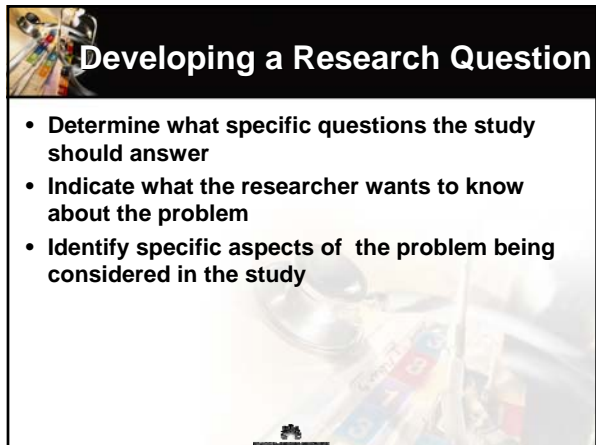
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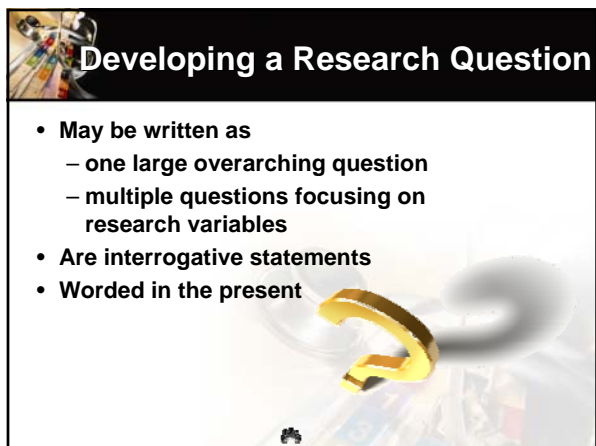
Developing a Research Question

- The Research Question is the final step prior to the beginning of a research design
- A Research Question outlines the primary components that will be studied and guides the design and methodology of the study:
 - purpose
 - aims
 - design
 - data collection plan
 - data analysis plan



Developing a Research Question

- Determine what specific questions the study should answer
- Indicate what the researcher wants to know about the problem
- Identify specific aspects of the problem being considered in the study




Developing a Research Question

- May be written as
 - one large overarching question
 - multiple questions focusing on research variables
- Are interrogative statements
- Worded in the present

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PICO(T)

- PICO(T) acronym used to describe the four elements of a good clinical question
- P** = Patient population
- I** = Intervention or Issue of Interest
- C** = Comparison with other Intervention/Issue
- O** = Outcome of Interest
- T** = Time (often added to create a timeframe)


"In hospitalized adults (P), how does a rapid response team (I) compared with no rapid response team (C) affect the number of cardiac arrests (O) and unplanned admissions to the ICU (O) during a three-month period (T)?"




Development of Research Question

An example of research question:

- “What is the effectiveness of individual or group education sessions on diabetic testing compliance compared with usual care”





In Summary

- Research Problem Statements are declarations of discrepancy (why)
- Research Purpose Statements are declarations of intent (what)
- A carefully designed Research Question will lead to:
 - Sampling strategies (Who is the patient population)
 - An intervention protocol (What treatment is being tested)
 - Outcomes that are being measured (how will effect be demonstrated)

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References to Consider

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- Polit, D. & Beck, C. (2004). *Nursing Research: Principles and Methods, 7th edition*. Philadelphia: Lippincott Williams & Wilkins



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