

Course: Research Methodology

## Lecture 6: Identifying a Research Problem and Choosing a Topic

### Aim of the Lecture

The aim of this lecture is to introduce graduate students to the process of **identifying a research problem and selecting an appropriate research topic**, which forms the foundation of any successful research project.

### Learning Objectives

By the end of this lecture, students should be able to:

1. Understand the concept of a **research problem**.
2. Differentiate between a **research topic and a research problem**.
3. Identify potential research problems from real-world situations.
4. Apply criteria for selecting a **relevant and feasible research topic**.
5. Formulate **research questions** based on identified problems.

### Introduction

Research begins with the **identification of a problem** that requires investigation. A well-defined research problem helps guide the **direction, methodology, and outcomes** of the research study.

For graduate students, selecting a research problem is often one of the **most challenging stages** of the research process. The quality of a research project largely depends on the **clarity and relevance of the research problem**.

### 1. Understanding the Research Problem

A **research problem** refers to a **specific issue, difficulty, or gap in knowledge** that a researcher intends to investigate.

It usually arises when:

- There is **insufficient knowledge about a phenomenon**
- Existing research findings are **inconsistent**
- A practical issue requires **analysis or improvement**

### 2. Characteristics of a Good Research Problem

A good research problem should be:

- **Clear and precise**
- **Researchable**
- **Significant to the field**
- **Feasible within time and resource constraints**

- **Relevant to current academic or societal issues**

**Example:**

**Topic:** Online Learning

**Problem:** Students experience difficulty maintaining concentration during online classes.

### 5. Difference Between a Research Topic and a Research Problem

It is important to distinguish between these two concepts.

<b>Research Topic</b>	<b>Research Problem</b>
Broad area of study	Specific issue within the topic
General subject	Focused research question
Starting point of research	Core issue that needs investigation

Example:

**Topic:** Social Media and Education

**Problem:** Excessive social media usage negatively affects students' academic performance.

Thus, the **topic provides the general direction**, while the **problem defines the specific focus of the research**.

### 6. Sources of Research Problems

Research problems can emerge from several sources, including:

#### 1. Personal Experience

Researchers may identify problems based on **professional or academic experiences**.

**Example:**

A teacher observes that students struggle with online learning platforms.

#### 2. Existing Literature

Reviewing previous studies may reveal:

- **Research gaps**
- **Unresolved questions**
- **Contradictory findings**

#### 3. Social and Practical Issues

Many research problems originate from **real-life challenges in society**, such as:

- Environmental issues
- Educational challenges
- Technological impacts

### 3. Steps in Identifying a Research Problem

### Step 1: Identify a Broad Area of Interest

The researcher first selects a **general field of interest**. Examples: Education, Technology, Environmental studies...

**Step 2: Conduct Preliminary Reading:** Reading academic articles helps to:

- Understand current debates
- Identify research gaps
- Narrow down the research focus

### Step 3: Narrow the Topic

The researcher then focuses on a **specific aspect of the topic**.

Example:

**Broad Topic** → Technology in Education

**Narrow Topic** → Online Learning in Higher Education

### Step 4: Formulate the Research Problem

The research problem is developed by identifying a **specific issue within the narrowed topic**.

**Example:** Students in online courses often demonstrate **lower engagement compared to traditional classrooms**.

### Step 5: Develop Research Questions

The problem can then be transformed into **research questions**.

Example:

- What factors influence student engagement in online learning environments?
- How does online learning affect students' academic performance?

## 8. Criteria for Choosing a Good Research Topic

Graduate students should consider the following criteria when selecting a topic:

**1. Relevance:** The topic should contribute to the **academic field or society**.

**2. Interest and Motivation:** A topic that interests the researcher increases **motivation and commitment**.

**3. Availability of Data:** The researcher must ensure that **data and sources are accessible**.

**4. Feasibility:** The research should be manageable within: Time limits, available resources **and** research skills.

**5. Originality:** The topic should provide **new insights or perspectives** rather than repeating previous research.

## 4. Example of Topic Development

Example Process:

**Broad Area:** Education

**Topic:** Online Learning

**Research Problem:** Low student engagement in virtual classrooms

**Research Question:** What factors affect student engagement in online learning environments?

**Example 1: Topic:** Assessment in Education

**Research Problem:** Traditional examinations may not accurately measure **students' critical thinking and practical skills**.

**Possible Research Questions:**

- How effective are alternative assessment methods in evaluating student learning?
- What are students' perceptions of formative assessment?

### **Conclusion**

Identifying a research problem and selecting an appropriate topic are **critical first steps in the research process**. A well-defined research problem provides direction and ensures that the study contributes meaningful knowledge to the academic community.

Graduate researchers should carefully evaluate potential topics by considering **relevance, feasibility, originality, and researchability**. Through systematic observation, literature review, and critical thinking, researchers can develop **clear and impactful research problems**.