
LESSON 1: INTRODUCTION TO EDUCATIONAL RESEARCH

Level: Licence 3

Course: Research Methodology / Educational Research

Duration: 3 hours per week

Lesson Type: Tutorial

I. LEARNING OBJECTIVES

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

1. Define educational research.
2. Explain why educational research is important.
3. Identify major areas of educational research.
4. Distinguish between types of research.

II. WARM-UP: WHAT IS RESEARCH? Think – Pair – Share

When you hear the word "research", what comes to your mind?

Guiding Question

Is searching for information on Google the same as conducting research? Why or why not?

III. WHY STUDY EDUCATIONAL RESEARCH?

Educational research is important for several reasons.

It helps students and researchers:

- become **research literate**;
- understand a society increasingly driven by research;
- develop **critical thinking skills**;
- read and critically evaluate published research;
- learn how to design and conduct research.

The purpose is therefore not simply to "collect information", but to develop the ability to **understand, evaluate, and generate knowledge**.

Exercise 1: Why Do We Need Research? Read the following situations.

	Situation	Answer
Situation A	A university teacher notices that students are increasingly using AI tools for academic writing	
Situation B	A teacher believes that group work improves students' speaking skills.	
Situation C	A university wants to know whether an online learning platform has improved students' academic performance.	

Questions

For each situation:

1. What problem requires investigation?
2. What information would the researcher need?
3. Why would research be useful?

IV. AREAS OF EDUCATIONAL RESEARCH

Educational research covers many different areas. Possible areas include research related to:

- teaching and learning;
- educational psychology;
- curriculum;
- language education;
- assessment;
- teacher education;
- educational technology;
- higher education;
- educational policy;
- educational inequality.

Exercise 2: Identify the Research Area- Match each research topic with an appropriate area.

Research Topic	Possible Area
Students' motivation to learn English	
Effectiveness of online assessment	
Teachers' professional development	
Students' use of AI for writing	
Development of a university curriculum	

Discussion

Which areas of educational research are particularly relevant to your own Master's dissertation?

V. GENERAL KINDS OF RESEARCH

The lesson introduces five general kinds of research:

1. **Basic research**
2. **Applied research**
3. **Evaluation research**
4. **Action research**
5. **Oriental research**

Types	Definitions
1. Basic Research	Basic research aims to generate fundamental knowledge and theoretical understanding about processes. It is primarily concerned with understanding phenomena. Example A researcher investigates how memory affects vocabulary learning. The primary purpose is to increase theoretical understanding.
2. Applied Research	Applied research focuses on practical problems and seeks relatively immediate solutions. Example A researcher compares two vocabulary-teaching techniques to determine which one produces better learning outcomes in a particular classroom.

Key Difference

Basic Research	Applied Research
Develops knowledge	Addresses practical problems
More theoretical	More practical
Explains phenomena	Seeks solutions
Long-term knowledge contribution	Often immediate application

The two should not necessarily be considered completely separate. They can be viewed as points along a **continuum**:

Basic → Mixed → Applied

Exercise 3: Basic or Applied? Classify each study:

Case	Basic	Applied
A. Investigating how the human brain processes a second language.		
B. Testing two methods for teaching pronunciation to first-year university students.		
C. Investigating the cognitive processes involved in vocabulary retention.		
D. Developing a classroom intervention to improve students' vocabulary learning.		

Critical Question

Can applied research contribute to theoretical knowledge?

3. EVALUATION RESEARCH

Evaluation research is concerned with determining the **worth, merit, or quality of an evaluation object**, such as a program or educational intervention. Two traditional forms are:

Formative Evaluation Used for program improvement . How can we improve the program?	Summative Evaluation Used to make a summary judgment about a program, including decisions about whether to continue or discontinue it. Has the program achieved its intended goals?
---	---

Exercise 4

Case	Formative Evaluation	Summative Evaluation
Case 01: A university introduces a new English language training program. Researchers collect feedback after three months to identify weaknesses and improve the program.		
Case 02: After one year, the university evaluates the results and decides whether to continue the program.		

Other FIVE TYPES OF EVALUATION

1. Needs Assessment	Is there a need for this program?
2. Theory Assessment	Is the program conceptualized in a way that it should work?
3. Implementation Assessment	Was the program implemented properly and according to the plan?
4. Impact Assessment	Did the program have an impact on its intended targets?
5. Efficiency Assessment	Is the program cost-effective?

GROUP EXERCISE: EVALUATING A UNIVERSITY PROGRAM

Scenario

A university establishes an **English for Academic Purposes (EAP) program** for Master's students.
In groups, students develop one research question for each type of evaluation.

Evaluation Type	Research Question
Needs assessment	
Theory assessment	
Implementation assessment	
Impact assessment	
Efficiency assessment	

4. ACTION RESEARCH

Action research focuses on solving **local problems encountered by practitioners**. In education, teachers can conduct action research to improve:

- instruction;
- classroom management;
- learner participation;
- assessment;
- teaching materials;
- learning outcomes.

Example

A teacher notices that students rarely participate in English-speaking activities.

The teacher:

1. identifies the problem;
2. collects information;
3. introduces a new strategy;
4. observes the results;
5. reflects on the outcome;
6. modifies the strategy.

Important Idea

Action research is not only a research method. It can also be understood as a **research-oriented way of thinking about one's own practice.**

Exercise 5: IS IT ACTION RESEARCH?

Scenario

A teacher notices that students are reluctant to participate in oral activities.

She introduces pair-work activities for four weeks, observes student participation, collects student feedback, and modifies her teaching strategy according to the results.

Questions	
What is the classroom problem?	
Who is conducting the research?	
What intervention is introduced?	
What data could be collected?	
How could the findings improve teaching?	

Discussion

Why might action research be particularly useful for language teachers?

5. ORIENTATIONAL RESEARCH

Orientational research aims to advance an **ideological position** and is concerned with issues such as:

- inequality;
- discrimination;
- stratification;
- unequal access to education;
- differences in power and resources.

Examples of possible research concerns include:

- socioeconomic inequality in education;
- unequal access to quality education;
- gender-related educational inequality;
- unequal access to educational resources.

Exercise 6: Consider:

A researcher investigates differences in access to high-quality English education between students from different socioeconomic backgrounds.

Discuss:

1. What educational problem is being investigated?	
2. What form of inequality might be involved?	
3. Why is this issue relevant to educational research?	

VI. SOURCES OF KNOWLEDGE

We have three major ways through which people gain knowledge:

1. Experience	2. Expert Opinion	3. Reasoning
Knowledge based on observation or personal experience. Historically associated with empiricism .	Knowledge obtained from people considered experts in a particular field. However, researchers should consider: - whether the person is genuinely an expert; - whether the expert has a vested interest.	Knowledge developed through thought and logical reasoning. Historically associated with rationalism .

EXERCISE 07: HOW DO WE KNOW? Consider the following claims:

Claim A "A professor says that this is the most effective method."
Claim B "I know that this teaching method works because I have used it for ten years."
Claim C "Three controlled studies found positive effects."

Questions

1. Which source of knowledge is represented in A?	
2. Which source is represented in B?	
3. What type of evidence is represented in C?	
4. Which claim would require further investigation?	
5. Why should researchers avoid accepting claims simply because someone is experienced or famous?	

VII. REASONING

There are two major forms of reasoning:

Deductive Reasoning: Moves from the general to the specific .	Inductive Reasoning Moves from the particular to the general .
Example General principle: Extensive exposure to language may facilitate language development. Specific situation: This group receives extensive exposure. Possible conclusion: Their language development may benefit from that exposure.	Example A researcher observes that: - Student A improves after using a particular strategy. - Student B improves. - Student C improves. - Student D improves. The researcher identifies a pattern and develops a generalization.
Structure Theory → Hypothesis → Data → Conclusion	Structure Observation → Pattern → Generalization

Exercise 08: INDUCTIVE OR DEDUCTIVE?

Identify the type of reasoning.

1.-----

A researcher begins with a theory, formulates a hypothesis, collects data, and tests the hypothesis.

2.-----

A researcher observes several classrooms, identifies a recurring pattern, and develops a general explanation.

3.-----

A researcher starts with previous research suggesting that peer feedback improves writing and tests this claim with Master's students.

Key Point

Inductive reasoning is often associated with **generating theories or hypotheses**, whereas deductive reasoning is particularly useful for **testing theories or hypotheses**.

VIII. THE SCIENTIFIC APPROACH

The scientific approach combines:

- **empiricism** – collecting data;
- **rationalism** – reasoning and theory construction/testing.

The lesson emphasizes that science is:

- progressive;
- rational;
- creative;
- dynamic;
- open;
- critical;
- never-ending.

Discussion

Why can scientific knowledge change over time?

IX. SCIENTIFIC METHODS

Deductive Method	Inductive Method
Three basic steps: 1. State a hypothesis ↓ 2. Collect data ↓ 3. Make a decision concerning the hypothesis	Three basic steps: 1. Observe the world ↓ 2. Identify a pattern ↓ 3. Make a generalization

Exercise 09: BUILD A RESEARCH PROCESS

Put the following steps in the correct order:

1. Analyze/interpret the findings
2. Formulate a hypothesis
3. Identify a research problem
4. Collect data
5. Draw a conclusion

Possible sequence

Would every research study necessarily follow exactly this sequence? Why or why not?

X. WHAT IS A THEORY?

A theory is essentially an **explanation**. Theories attempt to explain: **How?** And **Why?** something operates as it does. Some theories are broad and highly developed, while others provide narrower explanations.

Exercise 10: Consider the following statement:

"Students perform better when they receive regular feedback."

1. Is this a theory?	
2. Is it a hypothesis?	
3. Is it a research finding?	
4. What evidence would be needed to investigate it?	

XI. EVALUATING RESEARCH EVIDENCE

Evidence ≠ Proof: One of the most important methodological principles in the lesson is:

Research provides evidence, not absolute proof.

Research findings are therefore considered **tentative** and can become more convincing when findings are replicated.

Exercise 11: Evidence or Proof?

Which statement is more appropriate?

- A. "This study proves that online learning is better than face-to-face learning."
- B. "This study provides evidence that online learning was associated with improved performance in this particular context."

Critical Question

Why should researchers avoid using the word "proof" when reporting empirical findings?
