

**ANALYSIS OF INSTRUCTIONAL PROBLEMS  
AND RESEARCH DESIGN FOR LEARNING DEVELOPMENT**

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## **1. Instructional Problems and Research for Learning Development**

### **1.1 Characteristics of Problems (can arise in various ways):**

- **Learner aspect:** Low academic achievement, failure to achieve expected learning outcomes
- **Teacher/Activity aspect:** Inappropriate teaching methods, inconsistency with learners or learning objectives
- **Media aspect:** Ineffective instructional media that fails to promote learning
- **Contextual aspect:** Lack of basic readiness, insufficient parental cooperation, learners not valuing the subject

### **1.2 Approaches to Problem-Solving (two categories):**

- **Solved through administration/management** → Infrastructure problems (e.g., libraries, learning centers, internet systems)
- **Solved through research processes** → Problems related to teaching methods or instructional techniques that are inappropriate for learners

## **2. Nature of Research for Learning Development**

It is **classroom-based research** conducted when problems are encountered in teaching and learning, utilizing scientific processes.

**The sharpness/quality of the research depends on:**

1. Clear analysis of problem causes
2. Review of relevant literature → gaining new knowledge, new teaching methods, and guidelines for instructional design or research design suitable for one's own context

### 3. Research Design for Learning Development

Must be clear in three main components:

Component	Key Issues
<b>Sampling Design</b>	Who is the population/target group? What are their backgrounds? The current year's cohort is the sample
<b>Measurement Design</b>	Independent variable = innovation being developed; Dependent variable = efficiency/effectiveness (knowledge, satisfaction). How to measure? What instruments? How to develop valid and reliable instruments?
<b>Statistical Design</b>	How to analyze data? What statistical techniques will be used?

### 4. Classroom Action Research (CAR)

**Integrated operational process:**

1. Observe and summarize past problems + possible causes
2. Study new concepts, theories, research → select appropriate teaching methods
3. Design instruction and create learning plans for the next semester
4. Prepare teaching materials, methods, and effectiveness measurement instruments
5. Implement teaching while collecting data on progress and success
6. Summarize teaching outcomes for the target learning unit
7. Establish a **Professional Learning Community (PLC)** within the school for continuous problem-solving and knowledge exchange

### 5. Formal Research (for academic promotion/qualification)

Must emphasize a **systematic research process:**

- **Define research problem → Design research → Develop research instruments**

**Instrument quality must pass two processes:**

- **Logical Approach:** Literature review + expert validation in the field
- **Empirical Approach:** Actual pilot testing with analysis of instrument quality indices in the real context

Both principles are always embedded throughout the research process.

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## Core Essence

**Research for learning development** is the integration of teachers' routine work with systematic research. It uses classroom problems as a starting point, applies knowledge from literature reviews to suit one's own context, systematically collects data, and develops instruments that meet both logical and empirical quality standards.