



# CPL230-PENGEMBANGAN PERANGKAT LUNAK (PERTEMUAN-10)

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Dosen Pengampu :

**5165-Kundang K Juman**

Prodi Teknik Informatika Fakultas Ilmu Komputer



# Training

# Training & Development

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- Definition

- “The systematic acquisition of attitudes, concepts, knowledge, roles, or skills, that result in improved performance at work.”

- Training

- skill enhancement processes for non-managerial jobs

- Development

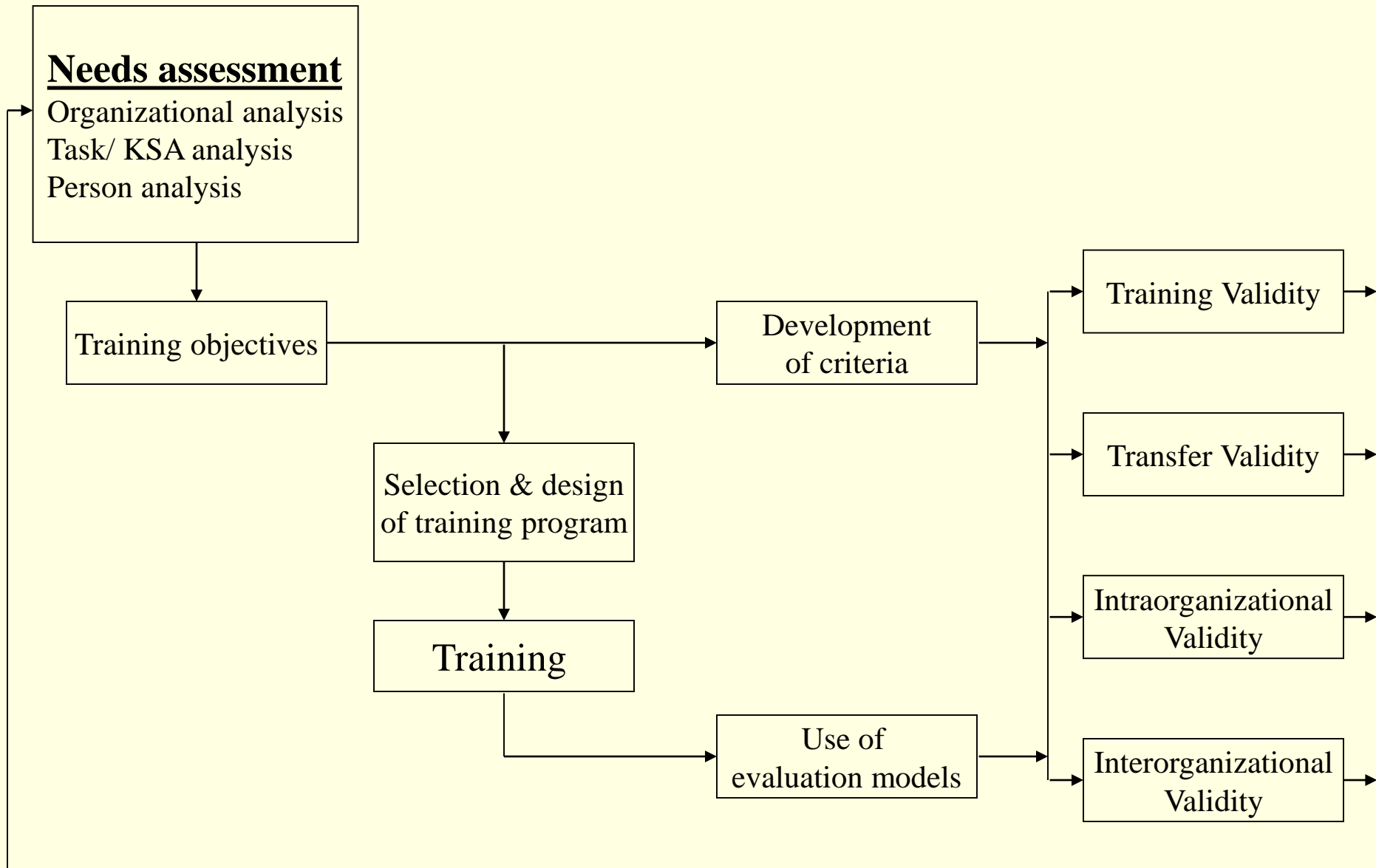
- skill enhancement processes for managerial jobs

# Topics

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- Who needs what kind of training?
  - Needs analysis
  - Learning objectives
  - Learning environment
- How should training be delivered?
  - Instructional techniques
- Was training effective?
  - Measuring criteria
  - Experimental design (interpreting results)
  - Training validity

# The Classic Training System



# Training Needs Assessment

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- Organizational Analysis
  - Examines systemwide factors that effect the transfer of newly acquired skills to the workplace
- Person Analysis
  - **Who** needs **what** kind of training
- Task Analysis
  - Provides statements of the activities and work operations performed on the job

# Training Objectives

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- Formal description of what trainee should be able to do after training
- Objectives
  - Convey training goals
  - Provide a framework to develop course content
  - Provide a basis for assessing training achievement
- Characteristics of effective objectives
  - Statement of desired capability or behavior
  - Specify conditions under which behavior will be performed
  - State the criterion of acceptable performance

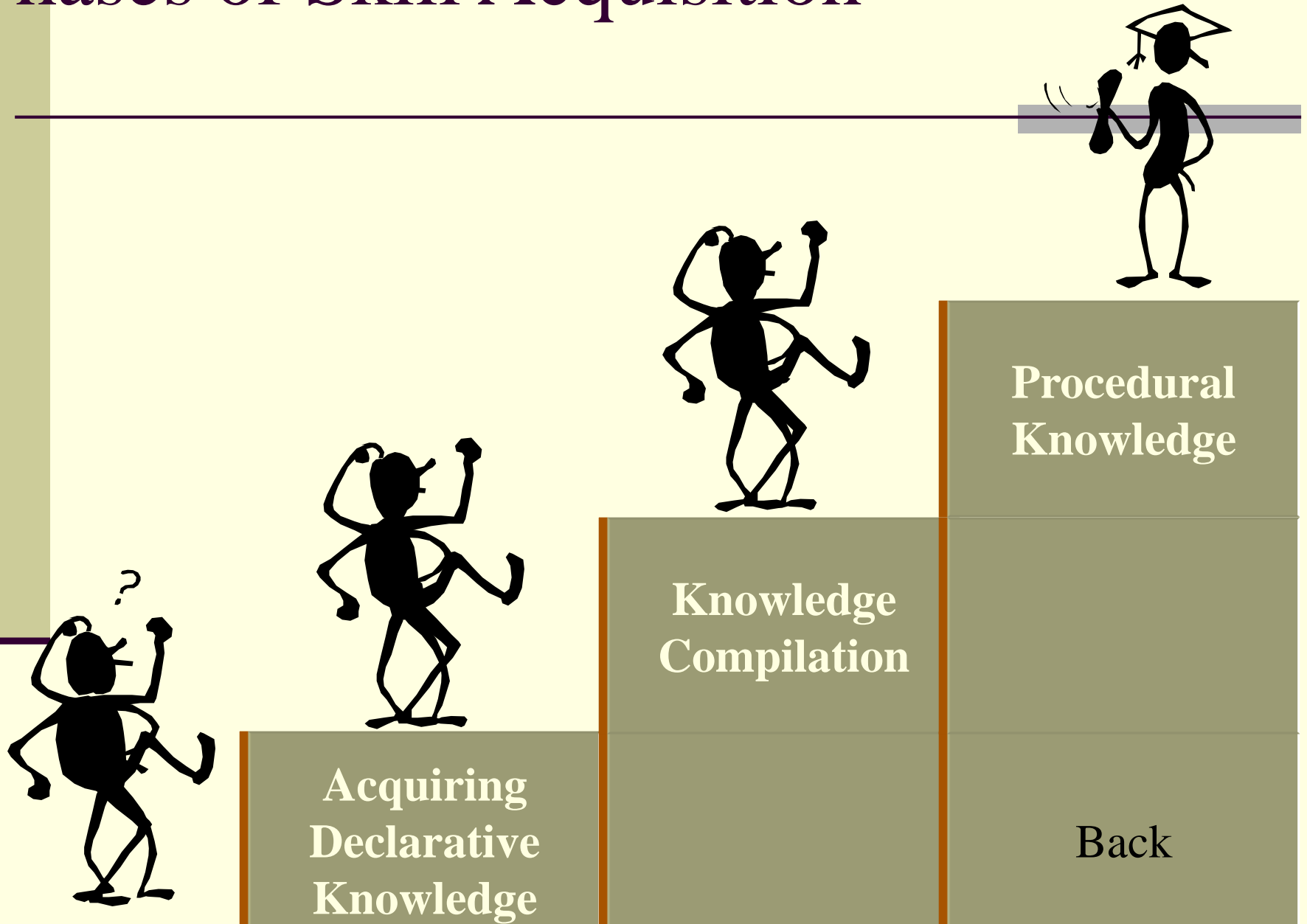
# Considerations in Training Design

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- Designing a learning environment
  - Learning principles
  - Trainee characteristics
  - Instructional techniques



# Phases of Skill Acquisition



# Important Trainee Characteristics

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- Trainee readiness
  - Trainability tests
    - Have prospective trainees perform a sample of tasks that reflect KSAs needed for job
  
- Trainee motivation
  - Arousal, persistence, and direction
  - Factors related to high motivation
    - Self-efficacy
    - Locus of Control
    - Commitment to Career

Back

# Instructional Techniques

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- Traditional Approaches
  - Classroom Instruction
    - Lecture and Discussion
    - Case Study
    - Role Playing
  - Self-Directed Learning
    - Readings, Workbooks, Correspondence Courses
    - Programmed Instruction
  - Simulated/Real Work Settings
    - Vestibule training
    - Apprentice training
    - On-the-job training
    - Job Rotation/Cross Training

# New Training Technologies

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- Distance Learning
- CD-Rom and Interactive Multimedia
- Web-based Instruction
- Intelligent Tutoring Systems
- Virtual Reality Training

# Kirkpatrick's Evaluation Criteria

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- Level 1 – Reaction
  - Did trainees like the training and feel it was useful
- Level 2 – Learning
  - Did trainees learn material stated in the objectives
- Level 3 – Behavioral
  - Are trainees using what was learned back on the job
- Level 4 – Results
  - Are benefits greater than costs

# Assessing Training Outcomes

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- Goal is to identify training as “cause” of changes in on-the-job behavior or organizational results.
- Experimental designs help researchers to link training to results
- There are a number of reasons (threats) why it is difficult to determine impact of training on results
  - The Wisdom Pill

# Experimental Design

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- Controlling potential confounds
  - Goal of experiment is to “rule out” alternate explanations of what affected dependent variable
    - Confounds are threats to internal validity
    - Can be controlled through appropriate experimental design and procedures

# Internal Validity

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## ■ Confounds Controlled by Experimental Design

1. History
2. Maturation
3. Testing
4. Instrumentation
5. Statistical Regression
6. Selection
7. Mortality
8. Selection-Maturation

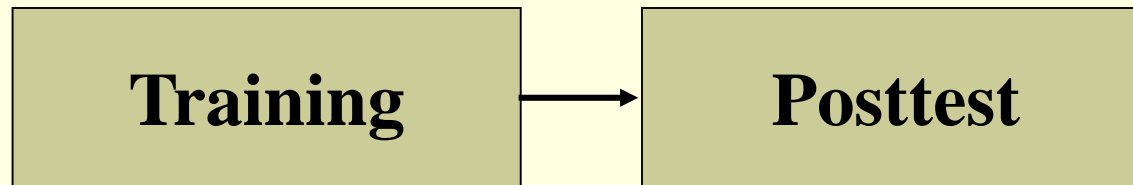
## ■ Confounds NOT controlled by Experimental Design

1. Diffusion of Treatment
2. Compensatory Equalization
3. Compensatory Rivalry



# Pre-experimental Designs

Post with no Control Group



## ■ Disadvantages

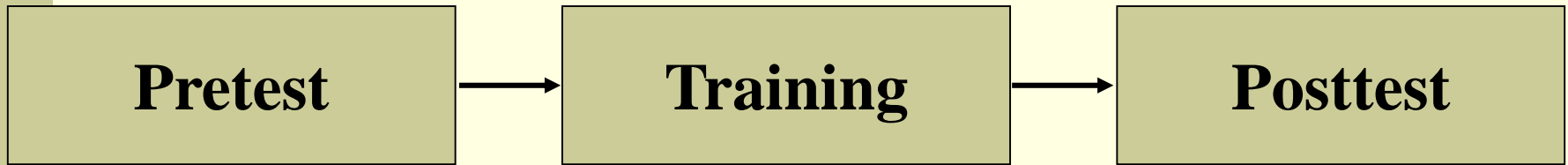
- Controls none of the threats to internal or external validity
- Basically worthless

## ■ Advantages

- Can potentially provide information for speculation about training effectiveness

# Pre-experimental Designs

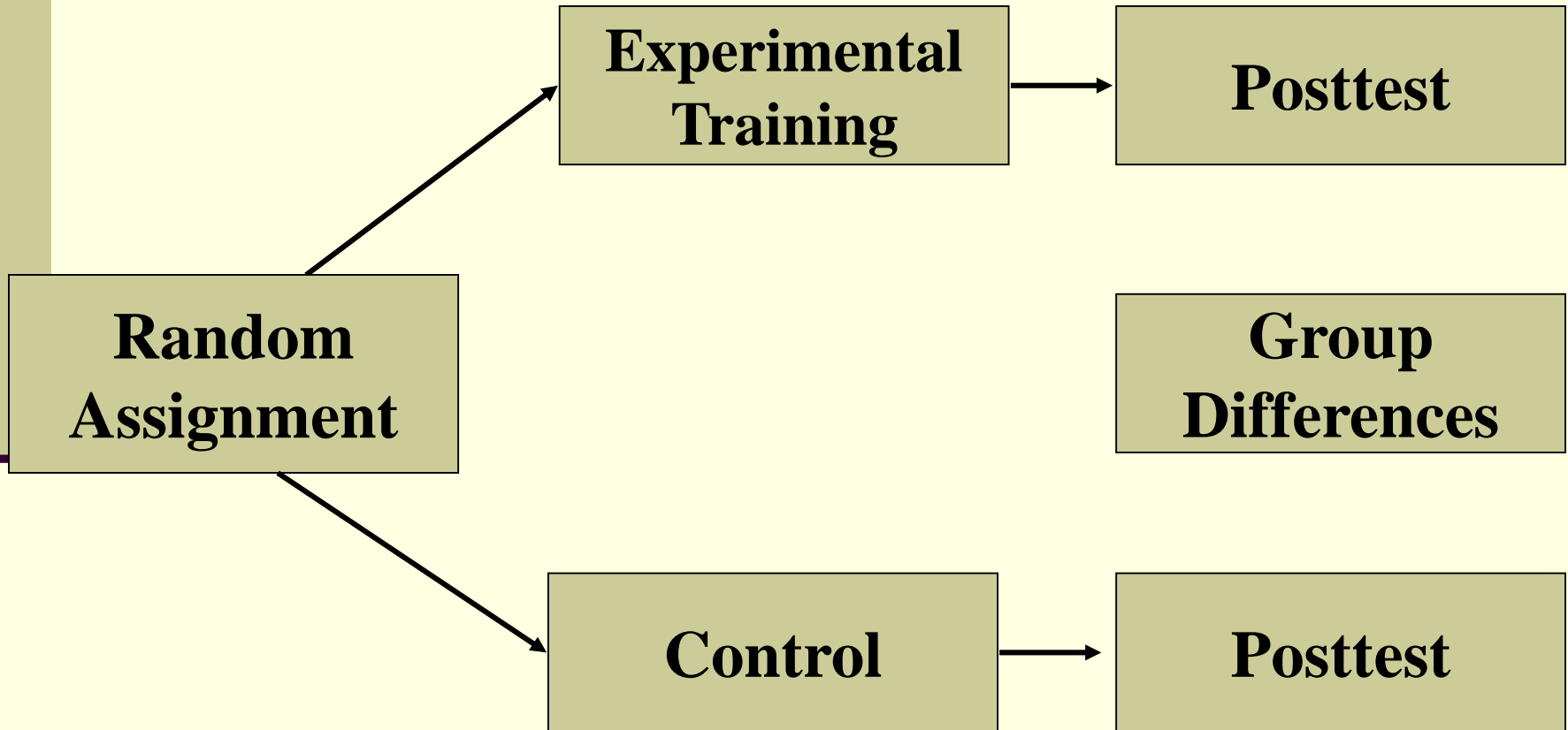
Pre – Post with no Control Group



- Cannot rule out any threats to internal or external validity
  - Except possibly mortality
- Advantages
  - Can determine if change occurred
  - May be able to understand mortality

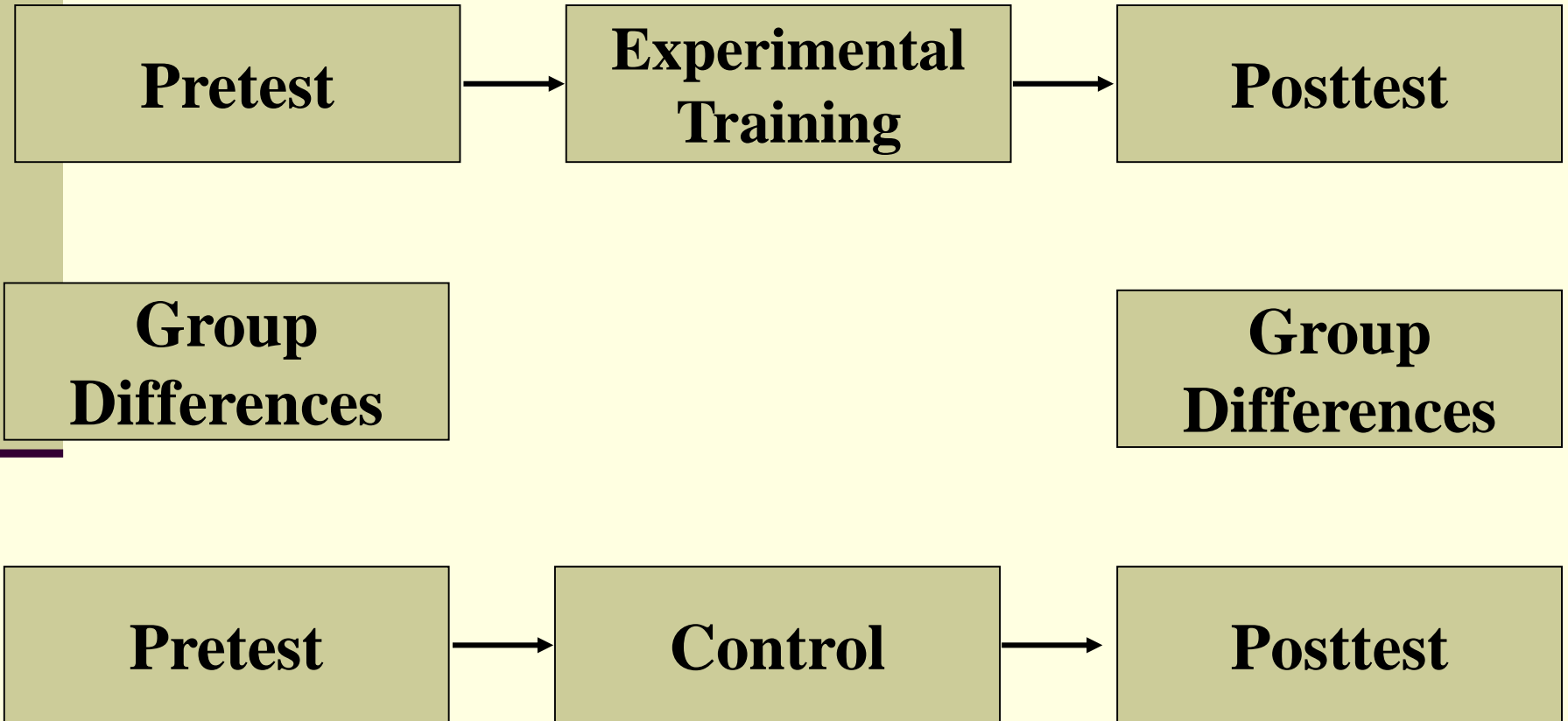
# Experimental Designs

## Posttest-Only Control Group Design



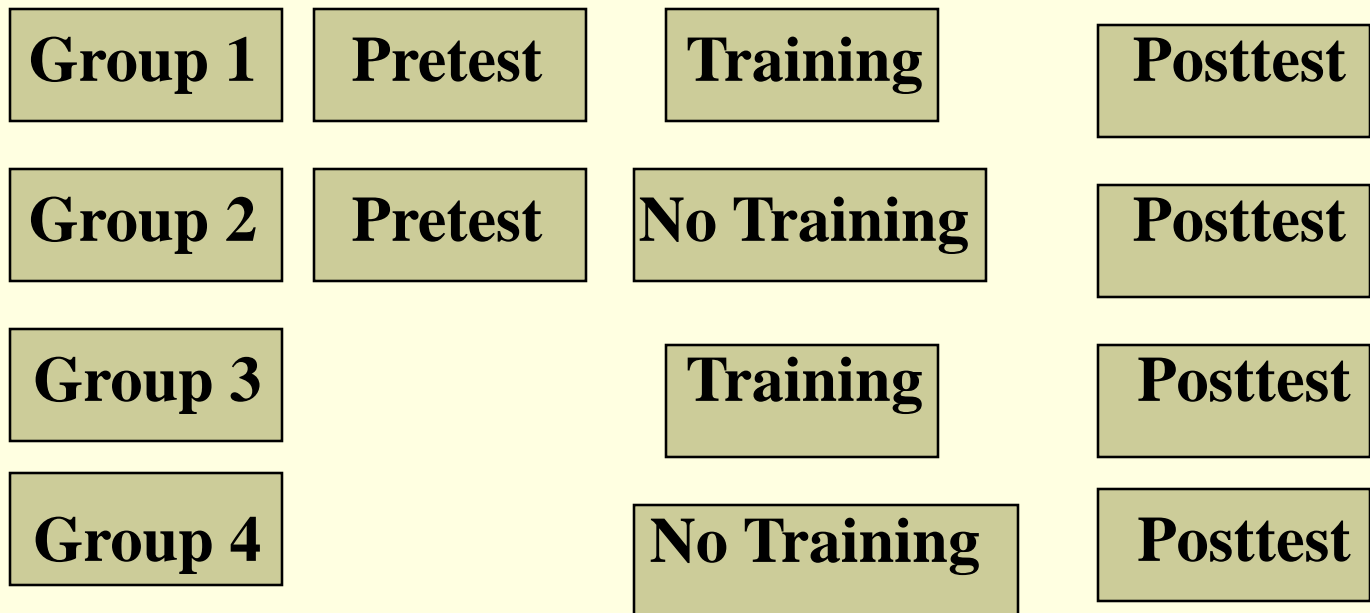
# Experimental Designs

Pre – Post with Control Group



# Experimental Designs

## Solomon Four Group Design



# Assessing Training Program “Validity”

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- Training Validity
- Transfer Validity
- Intraorganizational Validity
- Interorganizational Validity

# Key Dates for Group Project

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- April 30<sup>th</sup> – Training Objectives Due
- May 12<sup>th</sup> – Evaluation Materials Due
- May 14<sup>th</sup> and 19<sup>th</sup> – Training Delivered
- June 9<sup>th</sup> – Group Report Due