

# Training Evaluation

# Objectives

After reading this chapter, you should be able to:

1. Explain why evaluation is important.
2. Identify and choose outcomes to evaluate a training program.
3. Discuss the process used to plan and implement a good training evaluation.
4. Discuss the strengths and weaknesses of different evaluation designs.

## Objectives (continued)

5. Choose the appropriate evaluation design based on the characteristics of the company and the importance and purpose of the training.
6. Conduct a cost-benefit analysis for a training program.

# Introduction

- Walgreen Company wanted to determine if the time, money, and effort devoted to training technicians actually made a difference.
  - It was interested in assessing the effectiveness of the training program.

# Introduction (continued)

- **Training effectiveness** refers to the benefits that the company and the trainees receive from training.
- **Training outcomes or criteria** refer to measures that the trainer and the company use to evaluate training programs.
- **Training evaluation** refers to the process of collecting the outcomes needed to determine if training is effective.
- **Evaluation design** refers to from whom, what, when, and how information needed for determining the effectiveness of the training program will be collected.

# Reasons for Evaluating Training

- Companies are investing millions of dollars in training programs to help gain a competitive advantage.
- Training investment is increasing because learning creates knowledge which differentiates between those companies and employees who are successful and those who are not.

# Reasons for Evaluating Training

## (continued)

Because companies have made large dollar investments in training and education and view training as a strategy to be successful, they expect the outcomes or benefits related to training to be measurable.

# Training evaluation involves:

- **Formative evaluation** – evaluation conducted to improve the training process.
- **Summative evaluation** – evaluation conducted to determine the extent to which trainees have changed as a result of participating in the training program.

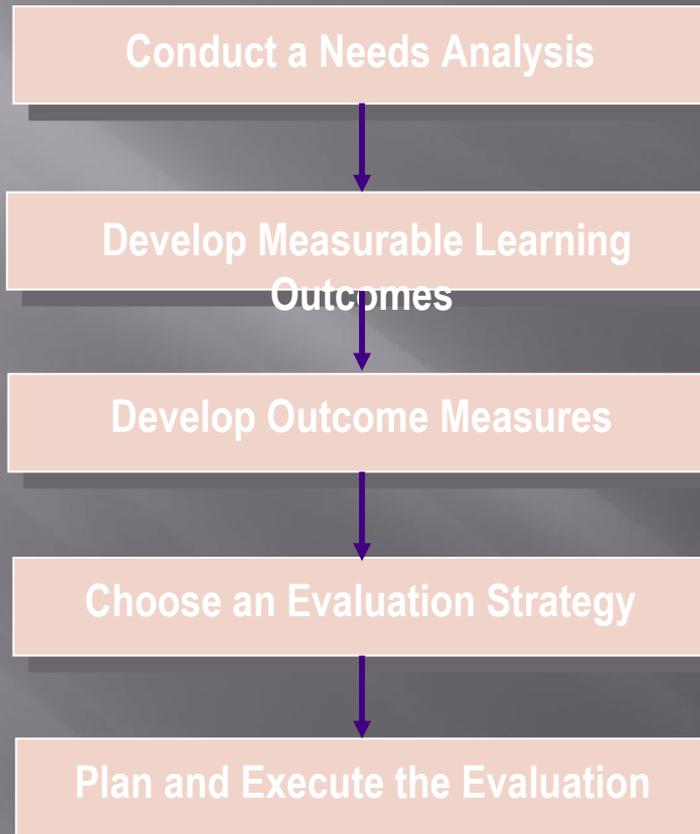
# Why Should A Training Program Be Evaluated?

- To identify the program's strengths and weaknesses.
- To assess whether content, organization, and administration of the program contribute to learning and the use of training content on the job.
- To identify which trainees benefited most or least from the program.

# Why Should A Training Program Be Evaluated? (continued)

- To gather data to assist in marketing training programs.
- To determine the financial benefits and costs of the programs.
- To compare the costs and benefits of training versus non-training investments.
- To compare the costs and benefits of different training programs to choose the best program.

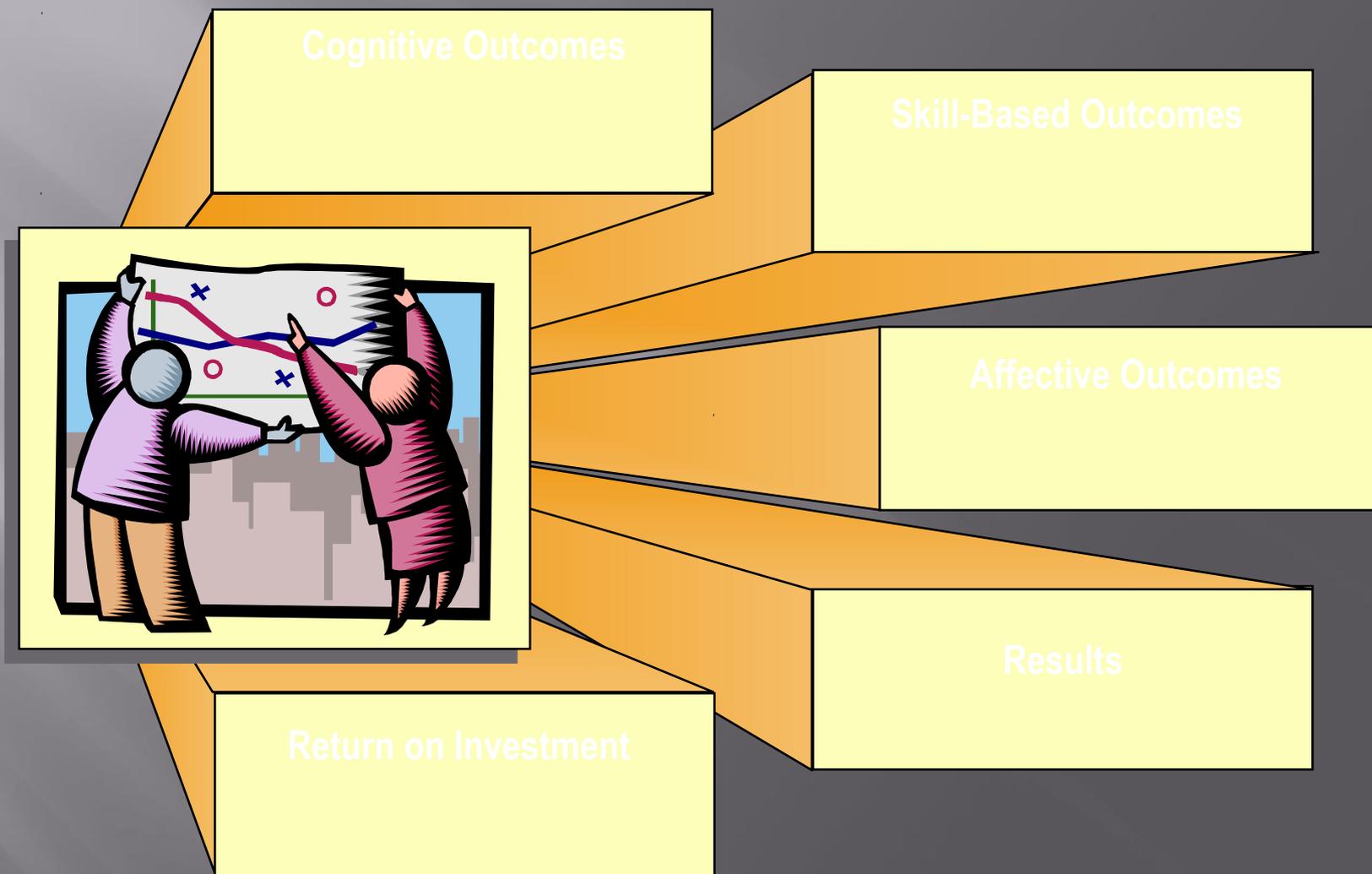
# The Evaluation Process



# Training Outcomes: Kirkpatrick's Four-Level Framework of Evaluation Criteria <sup>6-12</sup>

<i>Level</i>	<i>Criteria</i>	<i>Focus</i>
1	Reactions	Trainee satisfaction
2	Learning	Acquisition of knowledge, skills, attitudes, behavior
3	Behavior	Improvement of behavior on the job
4	Results	Business results achieved by trainees

# Outcomes Used in Evaluating Training Programs:



# Outcomes Used in Evaluating Training Programs: (continued)

## ▫ **Cognitive Outcomes**

- Determine the degree to which trainees are familiar with the principles, facts, techniques, procedures, or processes emphasized in the training program.
- Measure what knowledge trainees learned in the program.

## ▫ **Skill-Based Outcomes**

- Assess the level of technical or motor skills.
- Include acquisition or learning of skills and use of skills on the job.

# Outcomes Used in Evaluating Training Programs: (continued)

## ▫ **Affective Outcomes**

- Include attitudes and motivation.
- Trainees' perceptions of the program including the facilities, trainers, and content.

## ▫ **Results**

- Determine the training program's payoff for the company.

# Outcomes Used in Evaluating Training Programs: (continued)

- **Return on Investment (ROI)**
  - Comparing the training's monetary benefits with the cost of the training.
    - Direct costs
    - Indirect costs
    - Benefits

# How do you know if your outcomes are good?

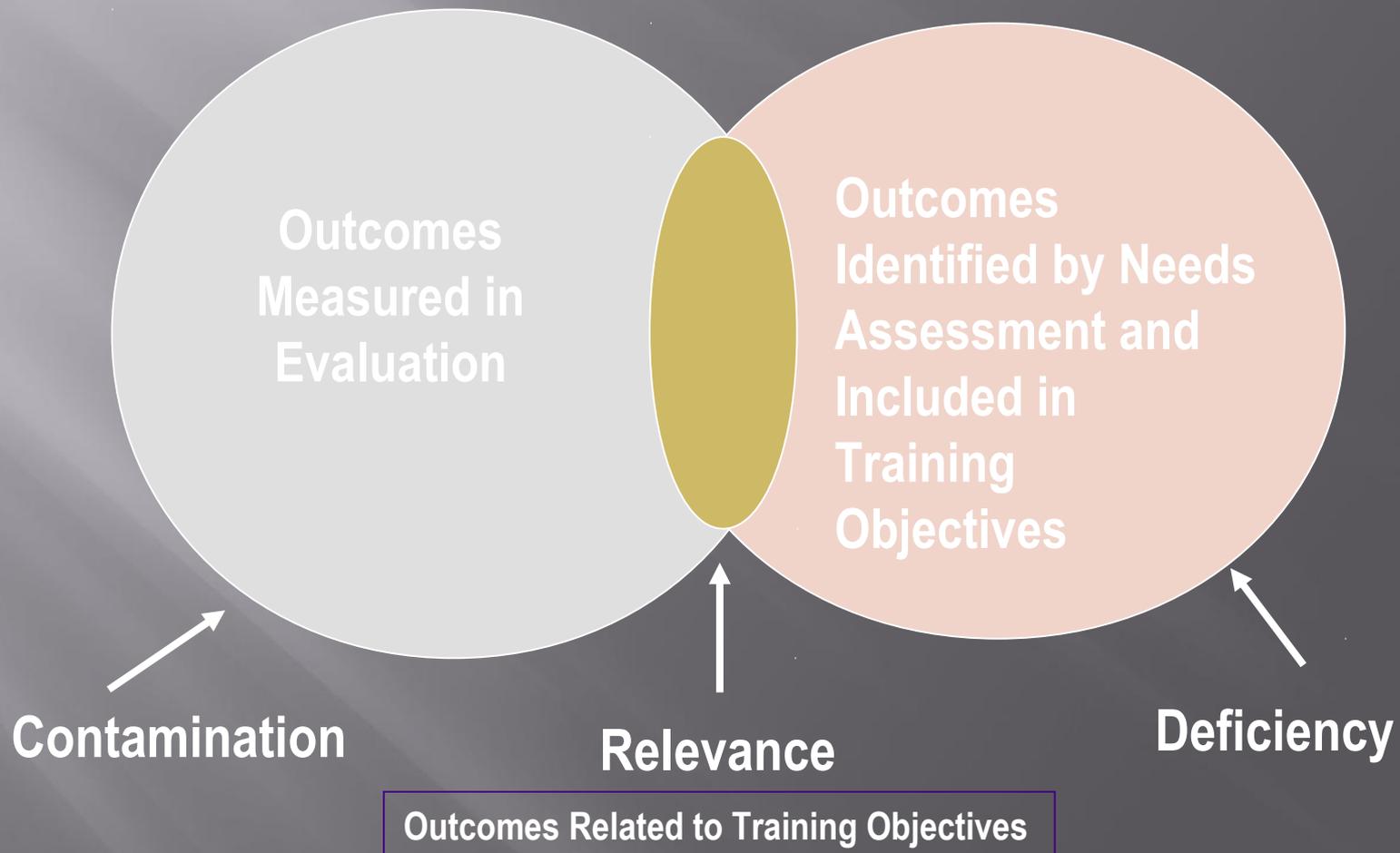
Good training outcomes need to be:

- Relevant
- Reliable
- Discriminate
- Practical

# Good Outcomes: Relevance

- **Criteria relevance** – the extent to which training programs are related to learned capabilities emphasized in the training program.
- **Criterion contamination** – extent that training outcomes measure inappropriate capabilities or are affected by extraneous conditions.
- **Criterion deficiency** – failure to measure training outcomes that were emphasized in the training objectives.

# Criterion deficiency, relevance, and contamination:



# Good Outcomes (continued)

- **Reliability** – degree to which outcomes can be measured consistently over time.
- **Discrimination** – degree to which trainee's performances on the outcome actually reflect true differences in performance.
- **Practicality** – refers to the ease with which the outcomes measures can be collected.

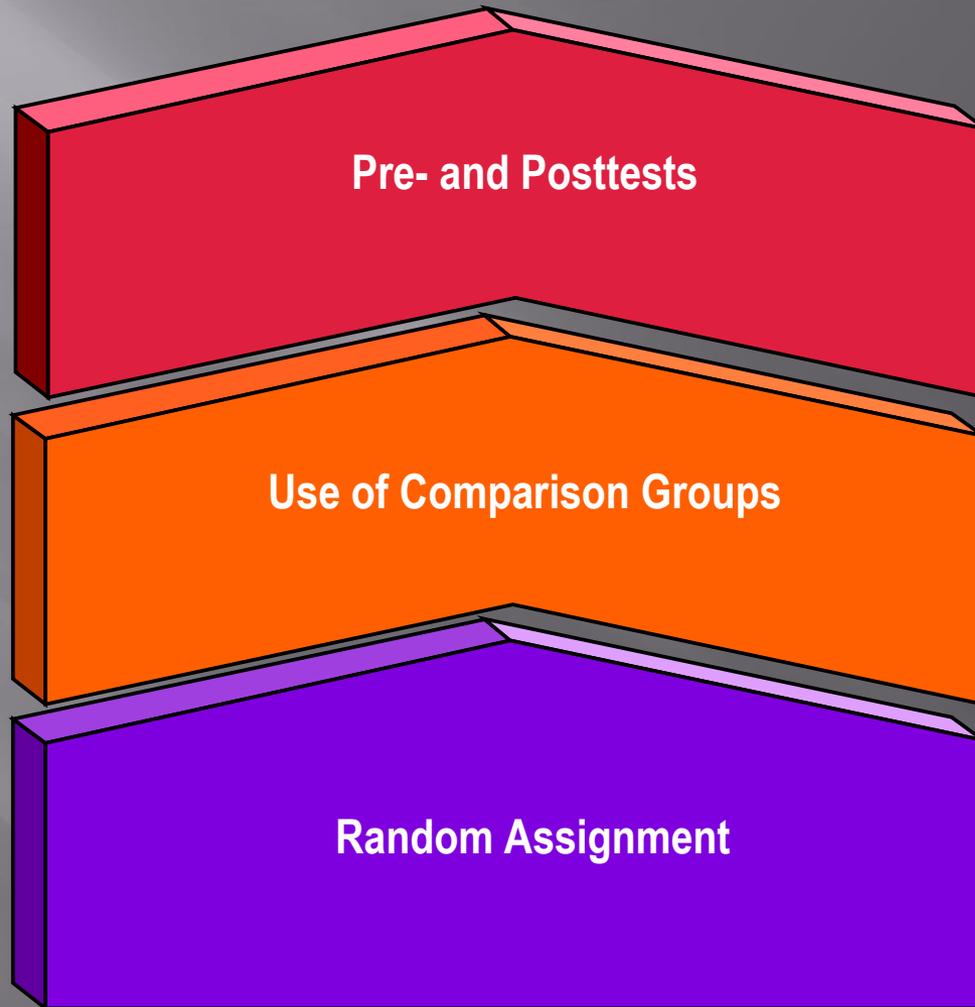
# Evaluation Designs: Threats to Validity

- **Threats to validity** refer to a factor that will lead one to question either:
  - The believability of the study results (*internal validity*), or
  - The extent to which the evaluation results are generalizable to other groups of trainees and situations (*external validity*)

# Threats to Validity

- **Threats To Internal Validity**
  - Company
  - Persons
  - Outcome Measures
- **Threats To External Validity**
  - Reaction to pretest
  - Reaction to evaluation
  - Interaction of selection and training
  - Interaction of methods

# Methods to Control for Threats to Validity



# Types of Evaluation Designs

- Posttest – only
- Pretest / posttest
- Posttest – only with Comparison group
- Pretest / posttest with Comparison group
- Time series
- Time series with Comparison group and Reversal
- Solomon Four – group

# Factors That Influence the Type of Evaluation Design

<i>Factor</i>	<i>How Factor Influences Type of Evaluation Design</i>
Change potential	Can program be modified?
Importance	Does ineffective training affect customer service, product development, or relationships between employees?
Scale	How many trainees are involved?
Purpose of training	Is training conducted for learning, results, or both?
Organization culture	Is demonstrating results part of company norms and expectations?
Expertise	Can a complex study be analyzed?
Cost	Is evaluation too expensive?
Time frame	When do we need the information?

# Importance of Training Cost Information

- To understand total expenditures for training, including direct and indirect costs.
- To compare costs of alternative training programs.
- To evaluate the proportion of money spent on training development, administration, and evaluation as well as to compare monies spent on training for different groups of employees.
- To control costs.

# To calculate return on investment (ROI), follow these steps:

1. Identify outcome(s) (e.g., quality, accidents)
2. Place a value on the outcome(s)
3. Determine the change in performance after eliminating other potential influences on training results.
4. Obtain an annual amount of benefits (operational results) from training by comparing results after training to results before training (in dollars)

# To calculate return on investment (ROI), follow these steps: (continued)

5. Determine training costs (direct costs + indirect costs + development costs + overhead costs + compensation for trainees)
6. Calculate the total savings by subtracting the training costs from benefits (operational results)
7. Calculate the ROI by dividing benefits (operational results) by costs.
  - The ROI gives you an estimate of the dollar return expected from each dollar invested in training.

# Example of Return on Investment

<i>Industry</i>	<i>Training Program</i>	<i>ROI</i>
Bottling company	Workshops on managers' roles	15:1
Large commercial bank	Sales training	21:1
Electric & gas utility	Behavior modification	5:1
Oil company	Customer service	4.8:1
Health maintenance organization	Team training	13.7:1