**Chapter Six**

**Training Evaluation**

**OBJECTIVES**

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.

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.

7. Explain the role of big data, workforce analytics, and dashboards in determining the value of training practices.

**MULTIPLE CHOICE**

6.1. \_\_\_\_\_ refers to the process of collecting the outcomes needed to determine whether training is effective.

1. Training evaluation
2. Program design
3. Performance appraisal
4. Needs assessment

Answer: a

Difficulty: easy

Learning objective: 1

6.2. Which of the following statements best differentiates formative evaluation from summative evaluation?

1. Formative evaluation mainly involves collecting quantitative data, whereas summative evaluation involves collecting qualitative data.
2. Formative evaluation takes place on the completion of training, whereas summative evaluation takes place during program design and development.
3. Formative evaluation focuses on how to make a training program better, whereas summative evaluation helps to determine the extent to which trainees have changed after training.
4. Formative evaluation includes measuring the monetary benefits that a company receives from a training program, whereas summative evaluation measures beliefs and opinions of the trainees.

Answer: c

Difficulty: medium

Learning objective: 1

6.3. Formative evaluation involves collecting data about a training program from trainees mainly through \_\_\_\_\_.

1. their opinions and feelings about the program
2. measures of performance such as volume of sales
3. tests and ratings of their behavior
4. return on investment (ROI)

Answer: a

Difficulty: medium

Learning objective: 1

6.4. The evaluation process ideally begins with \_\_\_\_\_.

* 1. developing outcome measures
  2. choosing an evaluation strategy
  3. developing measurable learning objectives
  4. conducting a needs analysis

Answer: d

Difficulty: easy

Learning objective: 3

6.5. \_\_\_\_\_ relate to whether trainees are using training content back on the job.

1. Reactions
2. Learning
3. Cognitive outcomes
4. Behavior and skill-based outcomes

Answer: d

Difficulty: easy

Learning objective: 2

6.6. Which training outcome relates to trainees providing feedback about their satisfaction with a trainer?

1. Results
2. Cognitive
3. Reactions
4. Behavior and skill-based

Answer: c

Difficulty: easy

Learning objective: 2

6.7. \_\_\_\_\_ relate to trainees’ attitudes toward training content and motivation to transfer.

1. Reactions
2. Affective outcomes
3. Cognitive outcomes
4. Behavior and skill-based outcomes

Answer: b

Difficulty: easy

Learning objective: 2

6.8. Front-line supervisors are likely most concerned with which training outcomes?

1. Reactions
2. Return on expectations (ROE)
3. Cognitive outcomes
4. Behavior and skill-based outcomes

Answer: d

Difficulty: medium

Learning objective: 2

6.9. Behavior and skill-based outcomes are best measured by \_\_\_\_\_.

1. surveys
2. interviews
3. focus groups
4. observations

Answer: d

Difficulty: easy

Learning objective: 2

6.10. Typically, \_\_\_\_\_ are used to assess cognitive outcomes.

1. attitude surveys
2. observations
3. focus groups
4. pencil-and-paper tests

Answer: d

Difficulty: easy

Learning objective: 2

6.11. Which of the following is an affective learning outcome?

1. Learners’ satisfaction with training
2. Greater appreciation of diversity
3. Increased production
4. Reduced costs of production

Answer: b

Difficulty: medium

Learning objective: 2

6.12. If a firm measures its sales volume before and after a training program, which training outcome is it focused on?

1. Reactions
2. Return on expectations (ROE)
3. Return on investment (ROI)
4. Results

Answer: d

Difficulty: medium

Learning objective: 2

6.13. \_\_\_\_\_ refers to the ease with which training outcomes can be collected.

1. Reliability
2. Practicality
3. Acceptability
4. Relevance

Answer: b

Difficulty: easy

Learning objective: 4

6.14. Appropriate training outcomes need to discriminate. This means that \_\_\_\_\_.

1. tests given to employees before and after a training program should differ
2. trainees should be asked to take a reliable test that includes items for which the meaning or interpretation change over time
3. trainees’ performance on the outcome should actually reflect true differences in performance
4. different employees should be given different tests for measuring their performance on the same outcome

Answer: c

Difficulty: medium

Learning objective: 4

6.15. If trainers are interested in the generalizability of a study’s results to other groups of employees, then they are said to be interested in the \_\_\_\_\_ of the study.

1. outcome practicality
2. criterion relevance
3. external validity
4. outcome believability

Answer: c

Difficulty: easy

Learning objective: 4

6.16. Which of the following statements is most true of comparison groups?

1. The use of a comparison group poses a threat to internal validity.
2. Comparison group consists of a group of employees who do not attend the training program.
3. Employees in a comparison group have personal characteristics that are different from other trainees.
4. Use of a comparison group in training evaluation increases the possibility that changes found in the outcome measures are due to factors other than training.

Answer: b

Difficulty: medium

Learning objective: 4

6.17. Which of the following statements is true of random assignment?

1. It assigns employees to a training program without considering their individual differences.
2. It results in an unequal distribution of individual characteristics such as age, gender, and motivation.
3. It increases the effects of employees dropping out of the study.
4. It increases the differences between the training group and comparison group.

Answer: a

Difficulty: medium

Learning objective: 4

6.18. A firm that aims at improving readily observable outcomes such as productivity by collecting related data at periodic intervals before and after training is typically applying the \_\_\_\_\_ evaluation design.

1. Solomon four-group
2. pre-test/post-test
3. return on investment
4. time series

Answer: d

Difficulty: medium

Learning objective: 4

6.19. \_\_\_\_\_ is a time period in which participants no longer receive training intervention.

1. Regression
2. Mortality
3. Reversal
4. Maturation

Answer: c

Difficulty: easy

Learning objective: 4

6.20. Which of the following statements is true of Solomon four-group evaluation design?

1. It is mainly used by companies that are uncomfortable with excluding certain employees or that intend to train only a small group of employees.
2. It is an evaluation design in which pre-training outcomes are completely ignored.
3. It combines both pre-test/post-test comparison group and post-test-only control group design.
4. Relative to the other evaluation designs, it is more economical and takes less time to conduct.

Answer: c

Difficulty: medium

Learning objective: 4

6.21. Evaluation designs without pre-test or comparison groups are most appropriate when \_\_\_\_\_.

1. information regarding training effectiveness is not needed immediately
2. companies are interested in determining how much change has occurred
3. a company has a strong orientation toward evaluation
4. a company is only interested in whether trainees have achieved a certain proficiency level

Answer: d

Difficulty: medium

Learning objective: 4

6.22. Return on investment (ROI) analysis is best suited for training programs that are \_\_\_\_\_.

1. attended by few employees
2. inexpensive and have limited visibility
3. significant financial investments
4. one-time events

Answer: c

Difficulty: easy

Learning objective: 4/6

6.23. \_\_\_\_\_ demonstrates to key business stakeholders, such as top-level managers, that their expectations about training have been satisfied.

1. Reactions
2. Return on expectations (ROE)
3. Results
4. Return on investment (ROI)

Answer: b

Difficulty: easy

Learning objective: 4

6.24. \_\_\_\_\_ refers to concrete examples of the impact of training that show how learning has led to results that a company finds worthwhile and credible.

1. Utility analysis
2. Success cases
3. Return on expectations (ROE)
4. Outcome practicality

Answer: b

Difficulty: easy

Learning objective: 4

6.25. In the context of big data, \_\_\_\_\_ refers to the huge amount of data that is being generated and the speed with which it must be evaluated, captured, and made useful.

1. valence
2. volume
3. variety
4. velocity

Answer: d

Difficulty: easy

Learning objective: 7

6.26. In the context of big data, \_\_\_\_\_ refers to the large number of sources and types of data.

1. valence
2. volume
3. variety
4. velocity

Answer: c

Difficulty: easy

Learning objective: 7

**TRUE-FALSE**

6.27. Pilot testing refers to the process of previewing the training program with potential trainees and managers.

Answer: true

Difficulty: easy

Learning objective: 1

6.28. Formative evaluation usually involves collecting quantitative data through tests or objective measures of performance.

Answer: false

Difficulty: easy

Learning objective: 1

6.29. Pilot testing is more useful for formative evaluation than summative evaluation.

Answer: true

Difficulty: medium

Learning objective: 1

6.30. Results are more frequently examined than reactions.

Answer: false

Difficulty: medium

Learning objective: 2

6.31. Among all training outcomes, cognitive outcomes are most frequently assessed.

Answer: false

Difficulty: medium

Learning objective: 2

6.32. Improved self-efficacy beliefs relate to an affective learning outcome.

Answer: true

Difficulty: medium

Learning objective: 2

6.33. A pencil-and-paper test is the best means for measuring skill-based outcomes.

Answer: false

Difficulty: easy

Learning objective: 2

6.34. A reliable test includes items for which the meaning or interpretation does not change over time.

Answer: true

Difficulty: easy

Learning objective: 4

6.35. Outcome measures are often perfectly related to each other.

Answer: false

Difficulty: easy

Learning objective: 2

6.36. Favorable trainee reactions are strongly connected with transfer.

Answer: false

Difficulty: medium

Learning objective: 2

6.37. Cognitive outcomes generally do not help determine how much trainees use training content on the job.

Answer: true

Difficulty: easy

Learning objective: 2

6.38. Negative transfer is evident when learning occurs, but on-the-job behavior is lower than pre-training levels.

Answer: true

Difficulty: medium

Learning objective: 2

6.39. The believability of study results refers to external validity.

Answer: false

Difficulty: easy

Learning objective: 4

6.40. A comparison group refers to a group of employees who participate in the evaluation study but do not attend the training program.

Answer: true

Difficulty: easy

Learning objective: 4

6.41. The Hawthorne effect refers to employees performing at a low level because of the attention they receive.

Answer: false

Difficulty: medium

Learning objective: 4

6.42. Evaluation designs without pre-test or comparison groups are most appropriate when companies are interested in determining how much change has occurred in trainees.

Answer: false

Difficulty: medium

Learning objective: 4

6.43. The Solomon four-group design combines the pre-test/post-test comparison group and the post-test-only control group design.

Answer: true

Difficulty: easy

Learning objective: 4

6.44. It is necessary to limit return on investment (ROI) analysis to certain training programs as it can be costly.

Answer: true

Difficulty: easy

Learning objective: 5

6.45. It is important to conduct a return on investment (ROI) analysis for nearly all training programs.

Answer: false

Difficulty: easy

Learning objective: 5

6.46. Once the costs and benefits of the training program are determined, ROI is calculated by dividing costs by benefits.

Answer: false

Difficulty: medium

Learning objective: 6

**SHORT ANSWER-ESSAY**

6.47. Describe the various reasons for evaluating the effectiveness of training programs.

There are multiple reasons to evaluate training effectiveness:

* To identify the program’s strengths and weaknesses, including whether the program is meeting the learning objectives, the quality of the learning environment, and if transfer is occurring.
* To assess whether the various features of the training context and content contribute to learning and transfer.
* To identify which trainees benefited most or least from the program and why.
* To gather information, such as testimonials, to use for marketing training.
* To determine financial benefits and costs of the program.
* To compare the costs and benefits of training versus other HRM investments.
* To compare the costs and benefits of various training programs in order to choose the most effective programs.

Difficulty: medium

Learning objective: 1

6.48. Compare and contrast reaction and affective learning outcomes. Be sure to define each to demonstrate your understanding of these concepts.

Both reactions and affective learning outcomes reflect trainee attitudes and feelings. However, reactions relate to trainees’ perceptions of the training experience, and affective learning outcomes relate to attitudes and motivation that are a focus of training. Reactions relate to the trainees’ perceptions of the content, facilities, trainer, and methods of delivery of the training experience. Affective learning outcomes relate to attitudes toward specific training content areas, such as diversity and teamwork, and individuals’ motivation to transfer skills upon completion of training.

Difficulty: medium

Learning objective: 2

6.49. Describe three ways to minimize threats to validity.

There are three ways to minimize threats to validity: the use of pre-tests and post-tests in evaluation designs, control groups, and random assignment.

* Use pre-tests and post-tests to determine the extent to which trainees have changed from pre-training to post-training measures. The pre-training measure essentially establishes a baseline.
* Use a control group (i.e., a group that participates in the evaluation study, but does not receive the training) to rule out factors other than training as the cause of changes in the trainees.
* Random assignment of employees to control and training groups. Randomization helps to ensure that members of the control group and training group are of similar makeup prior to the training.

Difficulty: medium

Learning objective: 4

6.50. Identify the circumstances when a company should consider employing a more rigorous design for evaluating a training program.

A more rigorous evaluation design should be considered when:

* The evaluation results can be used to change the program.
* The training is ongoing and has the potential to affect many employees.
* The training program involves multiple classes and a large number of trainees.
* Cost justification for training is based on numerical indicators.
* Trainers or others in the company have the expertise to evaluate.
* The cost of training creates a need to show that it works.
* There is sufficient time for conducting an evaluation.
* There is interest in measuring change from pre-training levels or in comparing two or more different programs.

Difficulty: medium

Learning objective: 5

6.51. What are the characteristics of big data? Explain how big data could be used to show that learning influences business outcomes.

Big data refers to complex datasets developed by compiling data across different organizational systems, including marketing and sales, HR, finance, accounting, accounting customer service, and operations. Three dimensions characterize big data: volume, variety, and velocity.

* Volume refers to the amount of available data.
* Variety includes the large number of sources and types of data.
* Velocity refers to the huge amount of data that is being generated and the speed with which it must be evaluated, captured, and made useful.

Data can be used from different sources to demonstrate relationships between learning and business outcomes, such as data from employee records, learning and performance management, systems and customer relationship management systems. The goal is to merge the data from these sources to show that employees who attended training had positive influence of different metrics.

Difficulty: medium

Learning objective: 7