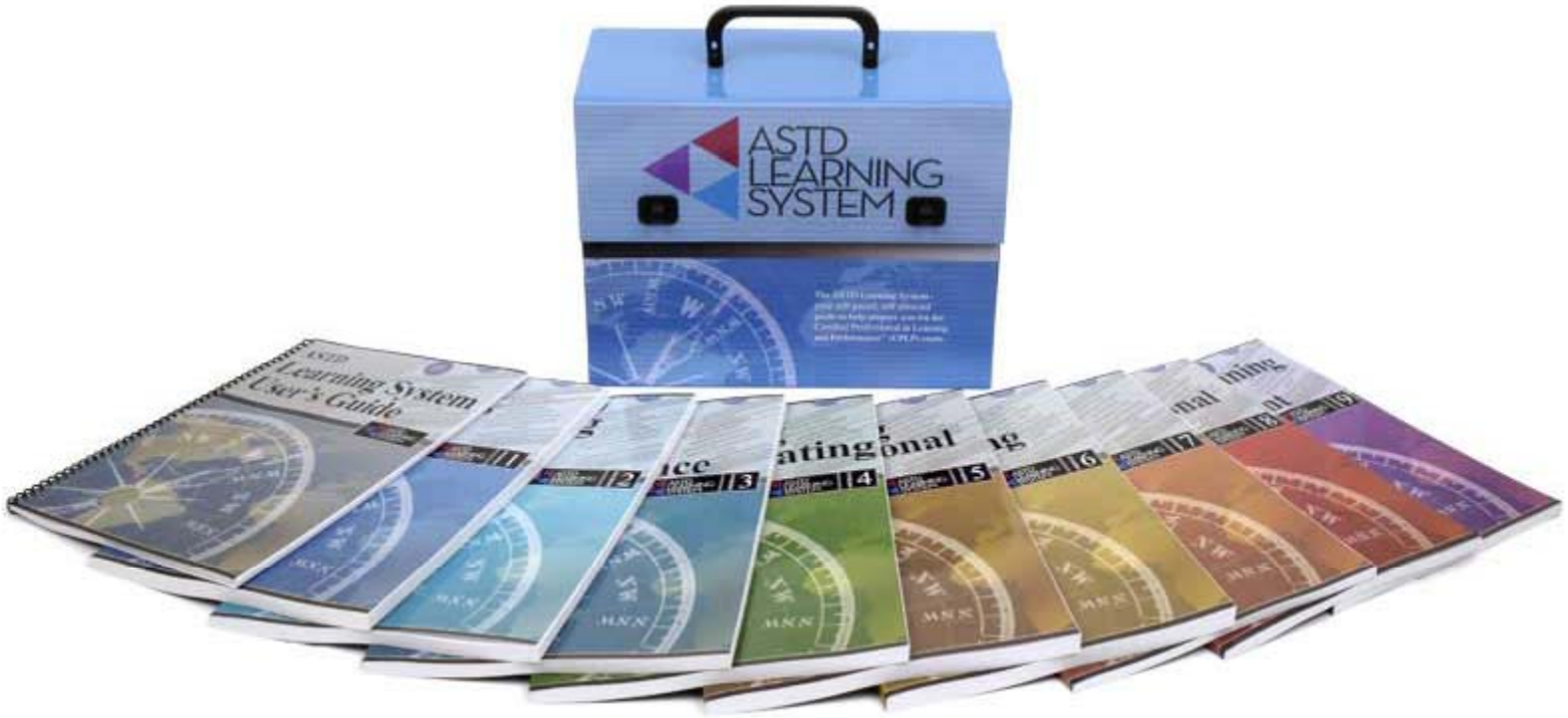
Logistics

- Phone 888-380-9638
- Pass code 368322

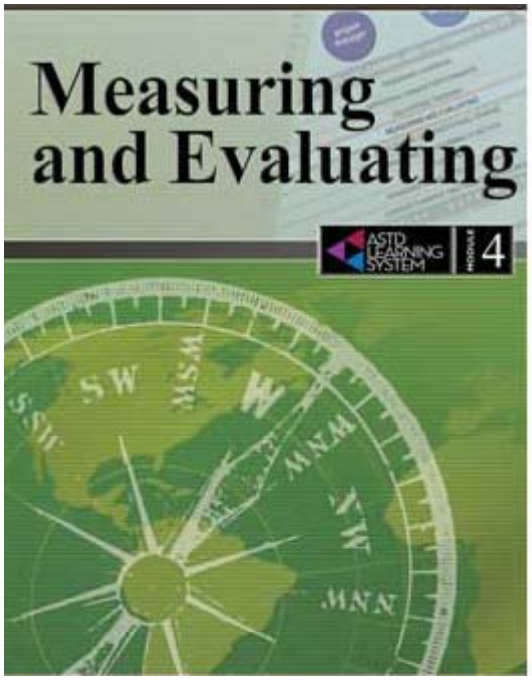
- Mute Phone button or Press #6

Please
do not place
telephone
on Hold

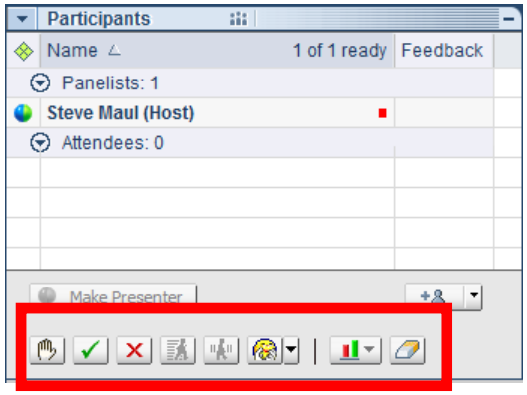
Welcome to Session 7
Measuring and Evaluating

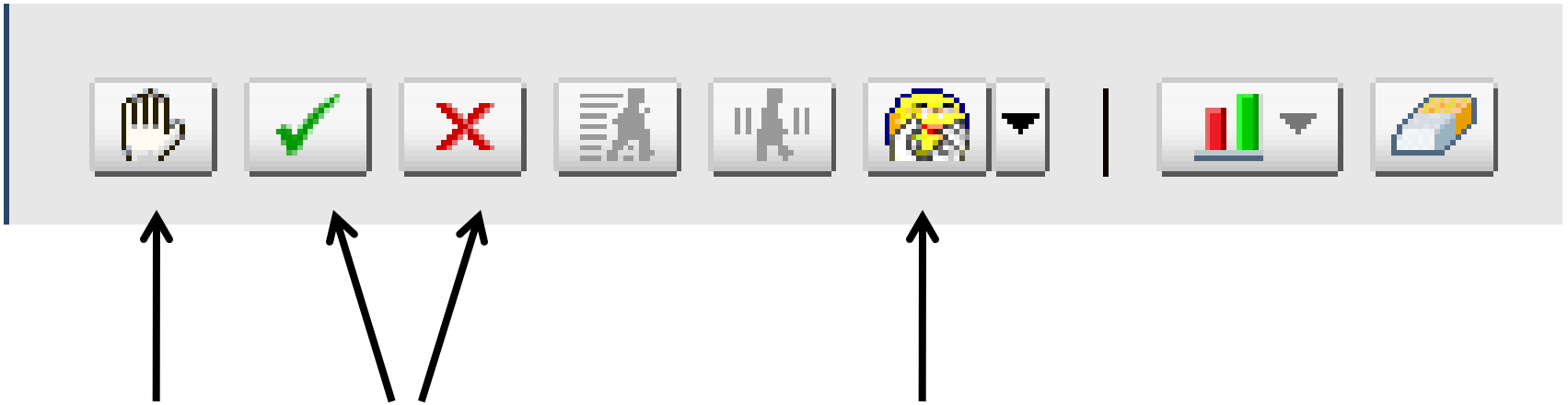


ASTD
WORKPLACE LEARNING & PERFORMANCE

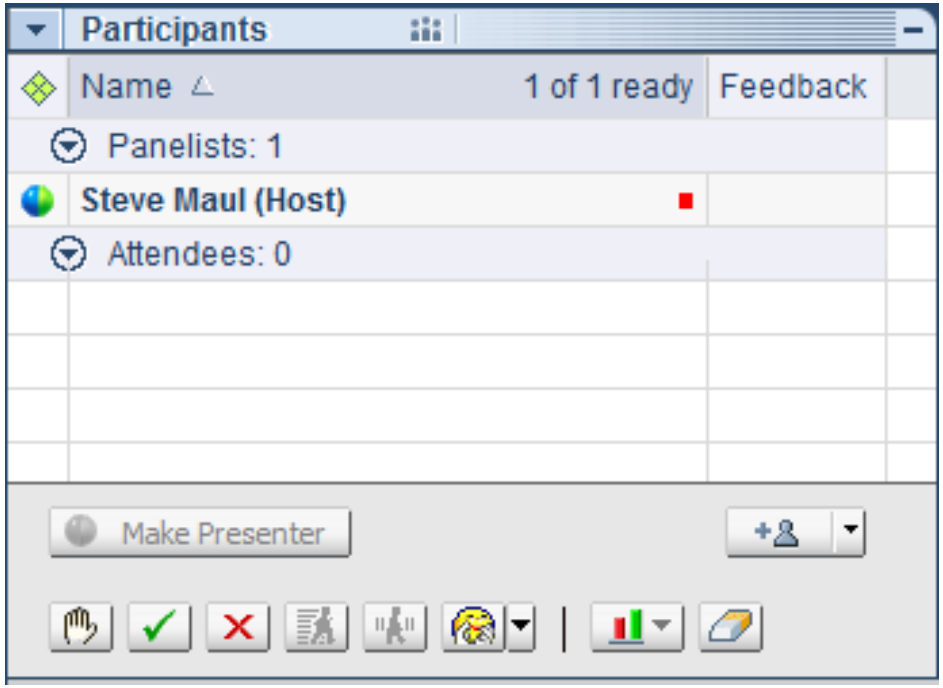


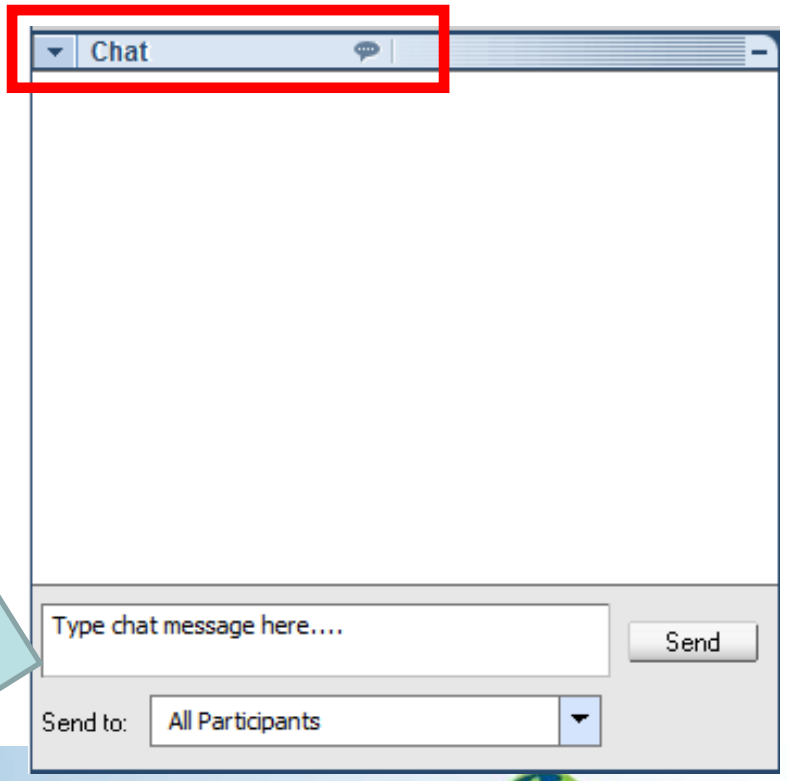
Measuring and Evaluating



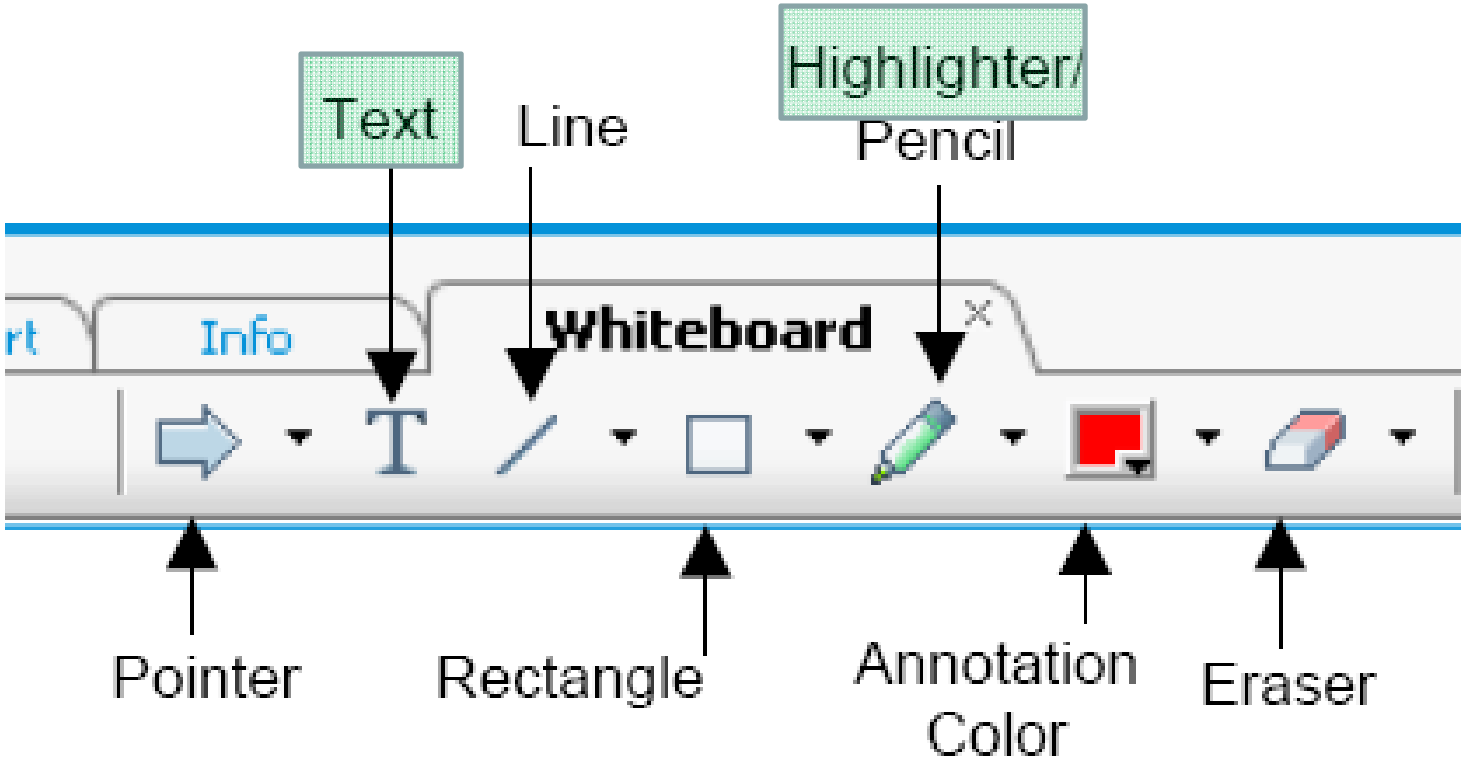


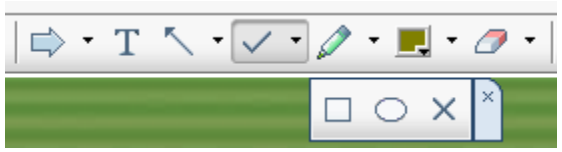
Raise hand Yes / No Emoticon


Participants
Name
1 of 1 ready
Feedback
Panelists: 1
Steve Maul (Host)
Attendees: 0
Make Presenter


Chat
Type chat message here....
Send
Send to:
All Participants

Drawing


Text
Line
Highlighter/
Pencil
Info
Whiteboard
Pointer
Rectangle
Annotation
Color
Eraser



Where in the United States did you last visit?

Use the check mark tool to indicate your current location

Session Topics

- ✓ Purpose and benefits of training evaluation
- ✓ Measurement process
- ✓ Assessment development issues including validity and reliability
- ✓ Formative versus summative evaluation
- ✓ Four levels of Kirkpatrick's evaluation

Session Topics

- ✓ Return-on-investment (ROI) methodology
- ✓ Calculating return-on-investment (ROI)
- ✓ Uses of analysis to include ROI evaluation, cost-benefit analysis, utility analysis, and forecasting
- ✓ Measures of central tendency

What is the purpose of evaluation?

- Determining business impact
- Improving the design of the learning experience
- Determining the content's adequacy

Use Chat

What are the benefits of evaluation?

- It can secure client support and build client relationships
- Allows the practitioner to see whether the results of learning are consistent with the business analysis and needs assessment
- Helps focus the training
- Validates performance gaps and learner needs
- Determines where the training is the solution to a gap

What are the fundamental steps of the evaluation?

What are the fundamental steps of the evaluation?

- Identifying evaluation goals
- Developing an evaluation design and strategy
- Selecting and constructing measurement tools
- Analyzing data
- Reporting data

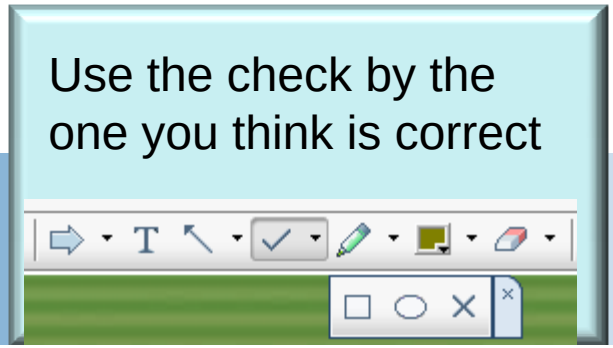
What is Validity and Reliability

- Validity means measuring what the practitioner intended to measure
- Reliability refers to the ability of the same measurement to produce consistent results over time.

Validity vs. Reliability

- What are the types of validity?

1. Content, construct, concurrent, critical and postmortem
2. Content, construct, concurrent, creative and prophetic
3. Content, construct, concurrent, criterion and predictive
4. Content, construct, concomitant, critical and predictive



Types of Validity

- **Content validity** – If high, then instrument good balance of content; if low, then not true summation of program
- **Construct validity** – Degree to which instrument represents what its supposed to measure (KSAs); defend via experts, correlations, etc.
- **Concurrent validity** – Extent to which instrument agrees with results of other instrument done at same time
- **Criterion validity** – Extent instrument predict or agree with external controls
- **Predictive validity** – Extent to which instrument can predict future behavior
- *When test is valid and reliable, means it measured the results intended consistently over time*

Validity vs. Reliability

- What is the source of validity when you don't have a statistician as a resource?

Use Chat

Validity vs. Reliability

- What is the source of validity when you don't have a statistician as a resource?

- Subject Matter Experts - SMEs

Validity vs. Reliability

- What term is used to describe the consistency of measurement?

Use Chat

Validity vs. Reliability

- What term is used to describe the consistency of measurement?

- Reliability refers to the ability of the same measurement to produce consistent results over time.

Validity vs. Reliability

- How does validity and reliability relate to each other to solidify your evaluation results?

What is the difference between formative and summative evaluation?

Fill in the blank

- Formative _____ is a method of judging the _____of a program while the program activities are _____.

- Summative evaluation is a method of _____the worth of a program at the ____of the program activities.

Use Chat

What is the difference between formative and summative evaluation?

- Formative **evaluation** is a method of judging the **worth** of a program while the program activities are **happening**.
- Summative evaluation is a method of **judging** the worth of a program at the **end** of the program activities.

Kirkpatrick's Four Levels of Evaluation

- What are the four levels of evaluation according to Kirkpatrick?

Kirkpatrick's Four Levels of Evaluation

- **Reaction** – what they thought and felt about the training
- **Learning** – the resulting increase in knowledge or capability
- **Behavior** – extent of behavior and capability improvement and implementation / application
- **Results** – the effects on the business or environment resulting from the trainee's performance

Kirkpatrick's Four Levels of Evaluation

- What are some tools used to conduct a Level 1 evaluation?

Use Chat

Kirkpatrick's Four Levels of Evaluation

- What level evaluates the learners' mastery of the program content?

Use Chat

Kirkpatrick's Four Levels of Evaluation

- What level assesses the overall impact of the program on the organization?

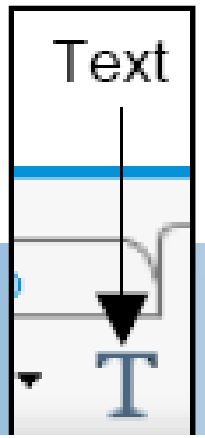
Evaluation Levels Matching

Level		Examples
Level 2: Learning		Observation and interviews over time are required to assess change, relevance of change and sustainability of change
Level 3: Behavior		Smile sheets or feedback forms Verbal reaction, post-training surveys or questionnaires
Level 4: Results		Measures are already in place via normal management systems and reporting – the challenge is to relate them to the trainee
Level 1: Reaction		Typically assessments or tests before and after the training Interviews or observation can also be used

Evaluation Levels Answers

Level	Examples	Relevance
Level 1: Reaction	Smile sheets or feedback forms Verbal reaction, post-training surveys or questionnaires	Quick and very easy to obtain Not expensive to gather or analyze
Level 2: Learning	Typically assessments or tests before and after the training Interviews or observation can also be used	Relatively simple to set up: clear-cut for quantifiable skills Less easy for complex learning
Level 3: Behavior	Observation and interviews over time are required to assess change, relevance of change and sustainability of change	Measurement of behavior change typically requires cooperation and skill of line managers
Level 4: Results	Measures are already in place via normal management systems and reporting – the challenge is to relate them to the trainee	Individually not difficult; unlike whole organization Process must attribute clear accountabilities

What are some ways to assign monetary value to program improvement?



What are some resources to assign monetary value to program improvement?

- Benchmarking
- Expert input
- Estimates

What are some approaches for isolating the effects of training in ROI?

What are some approaches for isolating the effects of training in ROI?

- Use of control groups
- Trend line analysis
- Forecasting methods
- Use of experts
- Customer input

ROI Calculation

Fill in the blank

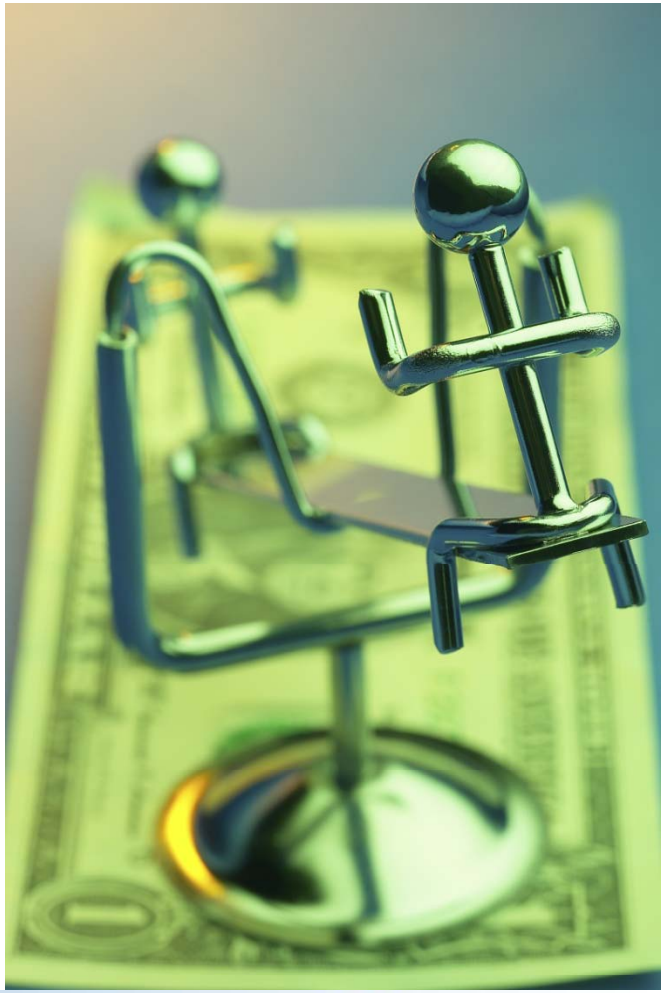
$$\textbf{ROI} = \frac{\text{Total } \_\_\_\_\_ - \text{Program } \_\_\_\_\_}{\_\_\_\_\_\text{Costs}} \times 100$$

ROI Calculation

$$\textbf{ROI} = \frac{\text{Total Benefits} - \text{Program Costs}}{\text{Program Costs}} \times 100$$

ROI Methods

- Three of the most popular methods are:
  - Benefit to cost ratio (BCR)
  - Return on investment (ROI)
  - Break even (BE)



What are some uses of analysis for ROI evaluation, cost-benefits, utilities, and forecasting?

What are some uses of analysis for ROI evaluation, cost-benefits, utilities, and forecasting?

- To measure a program's economic contribution
- To measure the degree of change in retention
- To isolate the effects of training

Central Tendency Definitions

- Mean = sum of all numbers divided by the number of values that make up the sum
- Median is a better measure for skewed distributions because it is less sensitive to extreme scores than the mean or mode.
- Mode, the most frequently occurring score in a distribution, is also used as a measure of central tendency. The advantage is that its meaning is obvious. It's the only measure that can be used with nominal data.

Central Tendency Example

- Test scored from 1-100
- 12 folks took test
- Sample scores:
  - 67 out of 100 (Median)
  - 54 out of 100 (Mean)
  - 39 out of 100 (Mode)

- If the most frequently received score is 39, then that's the mode (i.e. more people got 39 than any other score)
- If the average score is 54, then that's the mean (i.e. total scores divided by 12 = 54)
- If out of the 12 test takers, half of them scored above 67 and half scored below 67, then that's the median.

For skewed distributions, which measure of central tendency would you use?

For skewed distributions, which measure of central tendency would you use?

- The median is a better measure for skewed distributions because it is less sensitive to extreme scores than the mean or mode.

Components to include in a measuring plan

1. Description of the training program
2. Focus of the training program
3. Measurement and evaluation questions
4. Procedural plan
5. Analysis and interpretation plan
6. Reporting plan
7. Management plan
8. Budget

Reporting Plan Components

- Executive Summary
- Background Information
- Evaluation Methodology
- Data Collection & Analysis
- Identified Issues
- Evaluation Results
- Conclusions & Recommendations
- Next Steps

A Nine-Step Program Measuring and Evaluating Plan

Step 1: The Description of the Training Program to be Measured and Evaluated			
What is the name of this training program?	What type of training program is being developed?	Who is the target population for this training program?	Who is the Director, Coordinator, or Supervisor for this training program?
What is the primary funding source for this training program?	What other sources fund this training program?	When did the current funding begin for this training program?	When will the current funding end for this training program?
What are the individual goals of this training program?	What are the individual objectives of this training program?	What are the action steps, activities, or services planned for this training program?	What is the timeline for implementing these action steps, activities, or services?

Step 2: The Focus of this Training Program Measurement and Evaluation			
What will be measured and evaluated?	What will the purposes of this measurement and evaluation be?	When will this measurement and evaluation have to be finished?	What are any relevant contextual factors that might impact this measurement and evaluation?

Step 3: Measurement and Evaluation Questions			
What will your measurement and evaluation questions be?	What will your measurement and evaluation sub questions be?	Who will be the major audiences for each measurement and evaluation question and its associated sub questions?	What will be the importance of each measurement and evaluation question and its associated sub questions?

Step 4: Question Procedural Plan		
What information collection procedures will you use to answer your measurement and evaluation questions?	Which of the sub questions of Question 1 will be answered using each information collection procedure? Question 1. Sub question: A, B, C, …	Which of the sub questions of Question 2 will be answered using each information collection procedure? Question 2. Sub question: A, B, C, …

Step 5: Procedural Plan				
What information collection procedures will you use to answer your measurement and evaluation questions?	What measurement and evaluation sub questions will be answered using this information collection procedure?	What will the schedule be for collecting each kind of data?	Who will the respondents be for supplying each kind of information?	What size sample of respondents will be used to provide each kind of information?

Step 6: Analysis and Interpretation Plan				
What are your measurement and evaluation questions and sub questions?	What information collection procedure will be used to answer each of the questions and sub questions?	What data analysis procedures will be used to analyze the information and data?	What measurement and evaluation criteria, standards, or benchmarks will be used to interpret the information that you analyze?	What procedure will be used for making a measured and evaluative judgment?

Step 7: Reporting Plan				
What events will be needed to complete this measurement and evaluation?	On what date(s) will each event take place?	What will be the format of each event?	What will be the content of each event?	Who will be involved in each event?

Step 8: Management Plan					
What is your measurement and evaluation work plan?	Who will be responsible for each part of the measurement and evaluation work plan?	What number of days will be needed during (Month 1) to complete the selected events?	What number of days will be needed during (Month 2) to complete the selected events?	What number of days will be needed during (Month 3) to complete the selected events?	What number of days will be needed during (Month 4) to complete the selected events?

Step 9: Budget		
What will the sources of costs be for this measurement and evaluation?	What will the actual cost be in dollars?	What in-kind contribution(s) will be made in addition to these actual costs?
Human Resources		
Transportation Fees		
Lodging		
Food Allowance		
Materials and Supplies		

Bonus Question

1. Two-axis matrixes, flowcharts, dichotomy, and graphic models are all types of _____ models
2. What measurement procedure has the most impact on the extent to which a research study's results can be generalized?
3. Three major task-sorting, tabulating, and comparing raw with summarized data – are part of what process.

Bonus Question

- Data is difficult to express in measures or numbers is _____ data
- The primary tools for the visual display of quantitative evaluation are _____ and _____.
- To avoid bias when looking at statistical significance, it's important to check the _____ procedure.

Bonus Question

- What are some users of analysis for ROI evaluation, cost-benefits, utilities and forecasting? (name several)

MODULE 4

Assessment and Review

From Module 4: *Measuring and Evaluating* in the *ASTD Learning System*, complete the following Knowledge Check questions:

- **Chapter 4**
- **Chapter 5**
- **Answer Key**

Session Summary

- **Next Session Preparation Items:**
  - **Review the ASTD CI's *CPLP Candidate Bulletin* online at www.cplp.astd.org**
- **Facilitating Organizational Change**
  - **Book 5**

Questions, thoughts, concerns