Designing Pre and Post Surveys to Measure Knowledge
Pre and Post Survey
Learning Objectives

• Outcomes
• Knowledge
• Measuring Knowledge using a pre/post
• Examples of Knowledge Questions
• Designing a quality survey
• Pilot testing
• Analyzing and Scoring your results
What is a Knowledge Outcome?

• **Outcome** - the measurable "change" you would expect to see as a result of participation in a program.

• **Knowledge** - What do your participants know after your program.
HOW WILL YOU MEASURE KNOWLEDGE?

The Pre/Post Survey: What is it?

A measurement of the learning received during the training as a result of comparing what the participant knew before in a pre-survey and after the class experience in a post-survey.
Knowledge

• Participants will report increased financial **knowledge** as a result of the financial literacy services led or supported by AmeriCorps members.

• Participants will increase their **knowledge** of environmental stewardship

• Participants will indicate increased **knowledge** of disaster preparedness resources and planning
WHAT IS KNOWLEDGE?

• Facts
• Figures
• Formulas
• Procedures
• Categories
WHY USE THE PRE/POST SURVEY?

To quantify the knowledge attained in the class from a group of participants

Surveys tell how students are learning in the course

Surveys can identify teaching and learning methods that need to be changed or developed
Curriculum - Connect your questions to learning objectives

Validity – Measure what you are supposed to measure
KNOWLEDGE QUESTIONS

• True-False
• Matching
• Multiple Choice
• Completion (fill in the blank)
Multiple Choice

A tsunami is_______
A) A tidal wave
B) A series of waves with extremely long length and time period
C) Predicable
D) A single wave with extremely long length
True/False
To save money while shopping, it is better to compare the retail price than the unit price.

True or False?
Completion (Fill in the blank)

What are the four stages of the water cycle?

1. __________
2. __________
3. __________
4. __________
KNOWLEDGE QUESTION – EXAMPLE

Matching

Match the city with the country.

- France
- Turkey
- Italy
- Spain
- Greece
- Russia
- Belgium
- Great Britain

- London
- Paris
- Athens
- Moscow
- Madrid
DESIGNING QUALITY QUESTIONS

Keep response options short

Be sure wrong choices are plausible, especially with multiple choice...Be sure that the answer is factually correct

Use the option “none of the above” sparingly

Avoid using the option “all of the above”
DESIGNING QUALITY QUESTIONS

Statements should require a single-word answer

Keep questions simple, and don’t talk down to your audience.

Avoid trick questions

Remember the literacy level of your group
DEMOGRAPHIC QUESTIONS

- Gender
- Age
- Ethnicity
- Education level
- Economic Status
- Employment status/position
- Prior knowledge of a topic
• Do participants find the instrument easy to use?
• Do they understand what each question means?
• Do participants have any suggestions that would improve the questions or the format of the instrument?
ITEM ANALYSIS

- Record the number of correct answers to each question on the pre survey
- Eliminate questions where 50% or more of the participants got the answer right.
Responses to Knowledge Questions

Q1. xxxxxxxxxxxx
Q2. xxx
Q3. xx
Q4. xxxxxxxxxxxx
Q5. xxxxxxxxxxxx
Q6. x
Q7. 
Q8. xx
Q9. xxxxxxx
Q10. xxxxxxxxxxxx
Q11. 
Q12. 
Q13. xx
Q14. xxx
Q15. xxx
CHECKLIST FOR PRE/POST SURVEY

Survey title
Date of Survey
Introductory Statement
Demographics
Directions
Questions
Format
Pilot Testing
Organization Identification and/or WSC logo
Designing a process to score your pre/post survey

WSC defines “improvement” as any increase in the number of correct answers from pre-survey to post-survey

Track your results by the number of correct questions

Record your results on a spreadsheet
## WSC Pre/Post Survey Analysis Report

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<th>Pre-Score</th>
<th>Post-Score</th>
<th>Difference</th>
<th>% Change</th>
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</table>

**TTEST P value**: 0.152976

*Significant level of improvement if p value is less than or equal to .05*