



SAMPLE PROTOCOL FOR PILOT TESTING QUESTIONNAIRE ITEMS

Developed by Gloria Rogers for ABET

Time required: Approximately one hour (depends on length of survey)

Subjects: 4-6 persons. (Multiple cohorts if you **have** reason to believe their experiences are different enough to have an effect on their interpretation of the items.)

Explain the purpose of the survey:

(As a part of our ongoing process to continuously improve the quality of the program, we are developing a survey designed to assess your experience. We appreciate your willingness to help us pilot test the survey and provide us some feedback on your understanding and perception of the survey items. Your individual responses in the pilot test phase are not going to be recorded or reported to anyone except those who are designing the survey.)

Process:

1. After explaining the value of their participation, hand out only the questionnaire.
2. Indicate to the participants that they should take the survey seriously and respond to the items thoughtfully. Tell them that they may not ask questions and take the survey as they would under normal circumstances.
3. Take note of how long it takes participants to respond to all items (it may vary from one person to another but should not vary by much).
4. After the respondents have completed the survey, have them respond to each survey item in four ways. Review with them the meaning of each of the headers (see example below).
 - a. Understandable: Was the item “understandable.” That is, did you have to read the item more than once to understand what it was asking? Was the meaning of the question clear and straightforward?
 - b. Scale adequate: Was the scale adequate (e.g., Strongly agree...Strongly disagree)? That is, do you feel the scale provided you with an appropriate way to respond?
 - c. Only one response: Was the item written in such a way that you could have answered it more than one way? (E.g., could you have said BOTH “very little” and “very much”?)
 - d. Loaded: In your opinion, was the item written in such a way that it presupposes at least one unverified assumption. For example, the question, “Why do you think the laboratories need to be improved?” assumes that the laboratories need to be improved.
5. Have the respondents circle “yes/no” for each item. This will enable you to document their responses for comparisons within the pilot group.
6. After all the participants have independently responded to the four items for each of the survey questions, ask them to discuss with you any of the items that have a “no” response. Start with “understanding” column and discuss any item that has a “no” rating in that

column. Have them discuss why they responded that way. TAKE NOTES!!! You will want to evaluate their responses to make modifications on the items. Do this for each of the four columns.

7. Ask respondents to explain what they believe was meant by each item—especially any item that you had difficulty developing.
8. Ask respondents if they found any of the questions to be “emotionally laden.” For example, did they find any of the items offensive or insulting?
9. Prepare a summary of all concerns about survey items to guide developers in improving the quality of the survey

- a. **Understandable:** Was the item “understandable.” That is, did you have to read the item more than once to understand what it was asking? Was the meaning of the question clear and straightforward?
- b. **Scale adequate:** Was the scale (very little.....very much) adequate? That is, do you feel the scale provided you with an appropriate way to respond?
- c. **Only one response:** Was the item written in such a way that you could have answered it more than one way? That is, could you have said BOTH “very little” and “very much”?
- d. **Loaded:** In your opinion, was the item written in such a way that it presupposes at least one unverified assumption. For example, the question, “Why do you think the laboratories need to be improved?” assumes that the laboratories need to be improved.

To what extent has your college education contributed to your learning in the following areas:

1 2 3 4
 Very Little Some Quite a bit Very Much

- _____ 1. Using mathematical methods and procedures to solve the types of technical problems I will face in my career.
- _____ 2. Using scientific research methods and procedures to solve the types of problems I will face in my career.
- _____ 3. Using engineering methods and procedures to solve the types of problems I will face in my career.
- _____ 4. Conducting scientific investigation, including problem identification and setting up and interpreting an experiment or investigation.
- _____ 5. Designing a system, component, or process to meet a need.
- _____ 6. Using team process skills necessary to be an effective member of a team.
- _____ 7. Formulating and solving the types of technical problems I will face in my career
- _____ 8. Understanding the code of ethics for my chosen profession.
- _____ 9. Understanding the relationship of technical and scientific work and the cultures within which they operate.
- _____ 10. Planning to constantly update my professional skills after graduation.
- _____ 11. Understanding current societal issues.

	Scale		Only one		Loaded	Comments
	Understandable?	Adequate?	response?			
1. Yes No	Yes No	Yes No	Yes No	Yes No		
2. Yes No	Yes No	Yes No	Yes No	Yes No		
3. Yes No	Yes No	Yes No	Yes No	Yes No		
4. Yes No	Yes No	Yes No	Yes No	Yes No		
5. Yes No	Yes No	Yes No	Yes No	Yes No		
6. Yes No	Yes No	Yes No	Yes No	Yes No		
7. Yes No	Yes No	Yes No	Yes No	Yes No		
8. Yes No	Yes No	Yes No	Yes No	Yes No		
9. Yes No	Yes No	Yes No	Yes No	Yes No		
10. Yes No	Yes No	Yes No	Yes No	Yes No		
11. Yes No	Yes No	Yes No	Yes No	Yes No		