Think-Aloud Protocol for Survey Pre-Testing
Developed from Willis (1999)

A think-aloud interview is a form of survey pre-testing that is used to test and improve survey items and instructions before a survey is administered. It is a type of cognitive interviewing used to answer the following questions about the survey:

- What do the words and phrases in the survey items and instructions mean to respondents?
- What do respondents believe the survey item is asking?
- What types of information do respondents need to recall in order to formulate their responses?
- Do respondents devote sufficient mental effort to answer the question accurately and thoughtfully?
- Do respondents want to tell the truth? Do respondents say something to look "better"?
- Can respondents match their internal answer to the response choices provided?

To answer these questions, the evaluator recruits 3-5 testing participants who are as similar as possible to the people who will ultimately take the survey. For example, the testing participants should be about the similar age as the survey respondents will be and have similar background knowledge or interests related to the survey topic. The evaluator will conduct an individual interview with each testing participant.

During the interviews, the evaluator will instruct testing participants to "think aloud" as they take the survey. The evaluator will record or take notes about the processes that testing participants use in arriving at an answer to each survey item. The testing participants should speak continually during the interview, and the evaluator will say little except to interject "tell me what you're thinking" when participants pause. At the end, the evaluator will ask one or two questions to gather additional feedback.

The following example is drawn from Willis (1999, p. 3) and illustrates how a testing participant "thinks aloud" while formulating an answer to this survey item: *How many times have you talked to a doctor in the last 12 months?*

> I guess that depends on what you mean when you say "talked." I talk to my neighbor, who is a doctor, but you probably don't mean that. I go to my doctor about once a year, for a general check-up, so I would count that one. I've also probably been to some type of specialist a couple of more times in the past year - once to get a bad knee diagnosed, and I also saw an ENT about a chronic coughing thing, which I'm pretty sure was in the past year, although I wouldn't swear to it. I've also talked to doctors several times when I brought my kids in to the pediatrician - I might assume that you don't want that included, although I really can't be sure. Also, I saw a chiropractor, but I don't know if you'd consider that to be a doctor in the sense you mean. So, what I'm saying, overall, is that I guess I'm not sure what number to give you, mostly because I don't know what you want.

These results would show the evaluator that the testing participant had difficulty determining whether a visit occurred in the past 12 months. This suggests that 12 months is too long a period of time for respondents to clearly remember. In addition, the testing shows that the participant is unsure what type of doctor is being referred to, and whether the survey item addresses personal health concerns and/or others' health concerns. The evaluator would use these results to revise (and then re-test) the survey item.

Think-Aloud Protocol

Introduction

Evaluator: Thank you for participating in this interview today. The purpose of this interview is to test a survey that we are developing. I am going to ask you to take the draft survey and, at the same, time to "think" out loud as you read the instructions and answer each question. To do that, you will simply tell me what you are thinking about. This will help us make the instructions and questions clearer and improve the answer choices that are listed.

I would like to audio record our conversation to help with notetaking. The library evaluation team will be the only people with access to the recording, and we will delete it when we are done with our testing. Is it OK to audio record the conversation?

Practice question(s)

Evaluator: Before we begin, let's try a practice question. Try to visualize the place where you live and think about how many windows there are in that place. As you count up the windows, tell me what you are seeing and thinking about.

The evaluator should remain quiet as the testing participant describes what they are seeing and thinking about. Each time the testing participant pauses, the evaluator should say, "Tell me what you are thinking". If the testing participant struggles to complete this practice question, the evaluator should ask a second practice question.

Evaluator: Thank you very much. Let's try one more practice question before we begin. This time, I would like you to think about how long you were on your cell phone yesterday. As you count up the time you spent on your phone, tell me what you are thinking.

Survey testing

Evaluator: Thank you very much. That was exactly what you will be doing for the next part of the interview. This is a draft survey that we are testing. Please read the instructions, read each survey question, and fill in your answer for each question. As you do that, tell me what you are thinking.

The evaluator should remain quiet as the testing participant describes what they are thinking about and completes the survey. Each time the testing participant pauses, the evaluator should say, "Tell me what you are thinking".

Evaluator: Thank you very much. That was very helpful. Now I'd like to you look back over the survey. Which parts, if any, were confusing or unclear?

Closing

Evaluator: Thank you, again. Is there anything else you'd like to say about this survey before we finish?

Evaluator: I really appreciate your time today. This interview was very informative and will help us improve the survey. Thank you very much.

Reference

Willis, G. B. (1999). *Cognitive interviewing: A "how to" guide*. Short course presented at the annual meeting of the American Statistical Association.