



# EVALUATIVE THINKING

## 1. EVALUATIVE THINKING AND SURVEYS

### How Can Surveys be used Effectively?

The unique feature of surveys among data collection strategies is that they include both the questions and the possible answer choices. This makes surveys relatively challenging to develop but relatively easy to analyze. Other important features of surveys include the following. Surveys:

- can include only independent questions or groups of related questions (scales) that can be summarized
- can also include open-ended items for write-in or clarification
- can be completed by respondents or the person(s) administering the survey
- can be administered in write-in, mail-in, electronic, and other alternative formats (e.g., as responses that are cast by holding up a certain colored card, or using candy or marbles of different colors to represent responses).

Surveys are especially effective tools when:

- you have a large respondent group
- you have a group with which you have limited contact (e.g. parents or caretakers of program participants)
- you need to collect data about sensitive subjects like income levels or sexual behavior.

### What Kinds of Data Can be Collected Using Surveys?

Surveys are very useful for collecting different kinds of data at the same time and in fact a good survey instrument can include questions that address multiple data needs. Surveys can be used to:

- study attitudes or perceptions (*how much do you agree with the following statements . . .*)
- collect self-reported assessment of change in response to program (*since I started participating in the program I . . .*)
- collect program assessments (*how would you rate the . . . component of this program?*)
- collect behavioral reports (*in the last 30 days I have . . .*)
- test content knowledge (*true or false, a young person's first amendment protections are the same no matter where they are? . . .*)
- determine change over time, (*see final section for cautions when using pre/post surveys*).

### Survey Questionnaire Development and Assessment\*: Step-by-Step

1. Identify the key issues you wish to explore or 'test' via the survey. Review available literature, including proprietary sources, to determine if there are good surveys or items that already exist to measure the key issues.
- \*2. Convert these key issues into questions and remember to:
  - **State the question in very specific terms, using language that is appropriate for the target population.**
  - **Use multiple questions to sufficiently cover the topic.**
  - **Avoid 'double-negatives'**
  - **Avoid asking multiple questions in one**
  - **Be sure response categories match the question, are exhaustive and don't overlap.**
- \*3. Determine what other data are needed for analytical purposes. [Demographics, other background, contact information.]
4. Determine how the questions will be ordered and formatted and be sure to include directions for responses.
5. Have survey instrument reviewed by others including representatives from the target group.

\* Use items 2 and 3 from the list to assess surveys you are reviewing.

## What Are the Challenges or Limitations Involved in Using Surveys?

Surveys are definitely over-utilized in program evaluation. They have obvious value because of the potential to collect multiple types of data, from large groups, and because they can be administered in a variety of ways, but surveys also have limitations. In particular:

- designing surveys is complicated
- broad questions and open-ended items are difficult to analyze
- analyses and presentations of findings can require a great deal of work.

A good survey developer or analyst must be selective. Just a seemingly few items on a survey can result in a substantial amount of data to analyze. By the same token, collecting, analyzing and reporting about data from surveys can be a labor intensive way to obtain findings about only certain aspects of a program or program outcomes.

Generalization from survey findings is also limited. Unless survey response is very complete, you cannot assume the responses of those who answered the survey also speak for those from the same population who chose not to answer the survey. Unless efforts are made to carefully select and aggressively secure responses from specific participants, then the group of respondents is described as a "convenience sample" (i.e. it is comprised of a subset of participants who chose to answer). All data derived from a convenience sample must be attributed only to that sample (i.e. a summary would report 39% of respondents, rather than 39% of participants).

## What can you do to Enhance Evaluative Use of Surveys?

There are definite steps that can be taken to enhance the effectiveness of survey use so that findings from surveys can inform data-driven decisions. (*Using findings and making data-driven decisions are key elements of evaluative thinking.*)

### 1. DEVELOP A GOOD INSTRUMENT (use instructions shown in the text box page 1).

- **Carefully consider the usefulness of each item.** Ask questions only about the topics for which data are needed. A small number of items is best.
- **Only ask questions about relevant characteristics of respondents.** For example, you don't have to ask about race/ethnicity. If you don't have a sense that survey answers are related to racial/ethnic characteristics, then eliminate "identifying" questions. (If you still need those data to describe your population, be sure to capture it using other data collection strategies such as record reviews).
- **Carefully consider answer choice strategies and directions.** Do you need respondents to have a forced choice (mark one), or multiple responses (mark all that apply)?
- **Limit use of open-ended questions.** They are harder to analyze and often skipped by respondents. If the richer more qualitative data that usually results from open-ended strategies is desired, consider using an interview rather than survey.
- **Use clear, well-constructed items that fully cover the topics of interest** (see item 2, text box on previous page). Response scales can vary from 2 to 10 categories, but generally 3 or 4 options is easiest to work with (e.g., *No, Yes Somewhat, Yes Definitely; Strongly Disagree, Disagree, Agree, Strongly Disagree*). There is a whole field of survey research with detailed guidance on what works best (check out <http://www.socialresearchmethods.net/kb/survey.php>, <http://www.aapor.org/Home.htm>.)



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## 2. DEVISE AND CAREFULLY FOLLOW AN ADMINISTRATION PLAN.

Even well-written surveys will not yield useful information if they are not administered effectively. Survey developers need to be sure they spend sufficient time preparing to field their instruments so that findings can inform data-driven decisions. Use the questions identified to the right to inform good survey administration planning.

## 3. DEVELOP AN ANALYSIS PLAN BEFORE FIELDING THE SURVEY.

Planning for how to use survey data before it is collected is an essential step. First, it will help strengthen the content of the survey instrument: it should be possible to identify what will be done with the results of each item. If not, perhaps the item is not necessary or needs to be re-worded. Secondly, an analysis plan provides specific directions for what to do with data once it is collected so the analyst is not overwhelmed and the analysis process can be expedited.

**Suggestion:** Try writing each question on your survey instrument as a definitive findings statement with data. For example, the question *How would you rate the training process (excellent, good, not so good) would be written: A total of 80% of respondents rated the training as good or excellent.*

### 10 Key Questions to Answer Before Administering a Survey

1. Who and where is the target group?  
Will sampling be required? See <http://www.evaluationservices.co/uploads/samplesize.pdf> for a quick summary guide to sampling.
2. Will the respondents need assistance to complete the survey? Does the administrator need proof of active or passive consent (from the respondent or the respondents' parents/guardians)?
3. What type of survey will be administered (e.g., phone survey, e-survey)? How often will the survey be administered? Are respondent reminders needed and if so, how often?
4. Will responses be anonymous (i.e., completely unidentifiable) or just confidential (i.e., absent names but linkable to other data)?
5. What specific strategies (e.g., time, place, type of administrator), will be used and will there be any incentives to inspire completion? Do administrators need training?
6. How much time will be need for respondents to answer the survey questions?
7. What is the desired response rate ( # of surveys completed ÷ the # of surveys delivered)?
8. How will administration of the surveys and responses be tracked?
9. How will completed surveys be processed and stored (are their data entry needs)? How will confidentiality be maintained?
10. How will the response data be analyzed? Can necessary summaries be conducted by hand or with readily available spreadsheet or database software (like Microsoft Excel or Access), or electronic survey programs, or is

A good analysis plan must specify what procedures will be conducted with each item or groups of items on the survey. It should also include directions for:

- how data will be partitioned (e.g., by age of participants, or by gender)
- what happens when there are missing data (i.e. how much missing data is too much? Can the question be used?)
- how data will be recoded or combined (e.g., both strongly agree and agree will be represented as agree)
- what calculations are necessary (e.g., frequencies; measures of central tendency such as averages; cross-tabulations where two variables are considered at the same time)
- how findings will be presented (in tables and/or graphs, with narrative summaries).

## Using Pre-Post Surveys

As stated previously, surveys can be used to collect data over time. But it is definitely challenging. In a typical program scenario (i.e., one where there is a set group of participants involved in specific activities for a defined period of time), each of the following steps must be taken.

1. Develop a unique identification system (preferably user-generated) for matching pre- to post-responses.
2. Develop a brief, well-constructed survey (with items connected to the program/intervention).
3. Use a careful mix of items (note: it is easier to measure change in knowledge or behavior than in attitudes).
4. Set targets for pre-responses, post-responses, change between pre and post responses, and the number of matching surveys you need.
5. Administer the pre-survey to all or a sample of participants in the program BEFORE or at an initial session.
6. Review responses to the pre-survey to determine what participants knew, did or felt at the outset. Compare pre-survey responses to the previously determined targets.
7. Administer the post-survey to all (or as many as possible of) those who complete the program. Determine whether there are a sufficient number of matched pre- and post-responses based on previously determined matching targets.
8. Review responses to the post-survey to determine what participants knew, did or felt after the program. Compare post-survey responses to previously determined response targets.
9. If there is a satisfactory number of matched surveys, compare responses for the post-survey to pre-survey responses. Determine whether there was change over time based on previously determined targets.
10. Prepare results for sharing

Seasoned program staff especially interested in making data-driven decisions might modify these steps somewhat. In particular, they might stop after step 6 and determine whether the program should continue. If all participants knew, felt or behaved as desired BEFORE the program was delivered, that might be evidence enough to modify or cancel program plans.

Please note that it is especially challenging to get good, clean, pre-measures as participants may be unfamiliar with important terminology or they may be somewhat more inclined to answer in a more socially desirable or a less truthful manner as relationships are not yet established. Even if pre-measure challenges can be overcome and initial results show a definite need for the program, there is still the challenge of matching to contend with (step 7).

Data conservation is the next big challenge for effectively using a pre- post-survey strategy. In order for results to be useful, a sufficient number of survey respondents must answer both the pre-survey and the post-survey and their responses must be compared, item by item. Consider results like the following.

Table 1: Number of Pre- Post- and Matched Surveys

	Site 1	Site 2	Total
Pre-Survey Only	455	82	537
Post-Survey Only	261	17	278
Matched Pre- and Post-Surveys	177	66	243
<b>TOTAL</b>	893	165	1058

As shown above, many respondents (537) completed pre-surveys, fewer completed post-surveys (278) and even fewer completed both pre- and post-surveys (243). Pre-Post results are dependent on the change in response from the first administration to the second, so ***only the matched surveys can be used in the analysis***. In the example above, which came from an actual program and is not an extreme case, only about 23% of all the surveys that were administered (i.e., 243 of the 1058 surveys) could be used in the analysis. Considerable effort must be made to obtain sufficient data. (Please note that all this gets even more complicated if there are additional survey administrations like a mid-point survey.)

Further, results of pre-post analyses may be difficult to interpret. Consider findings like the following.

% Who correctly or favorably answered	Pre	Post	CHANGE
ITEM 1	15%	85%	+70
ITEM 2	50%	50%	0
ITEM 3	72%	52%	-20
ITEM 4	15%	25%	+10

Desired response to pre-post surveys would look like the results on Item 1: a total of 15% of participants correctly or favorably answered the question on the pre-survey, whereas 85% of participants correctly or favorably answered the question on the post-survey. Item 2 however, shows no change, and item 3 shows that proportionately fewer respondents answered the question correctly or favorably after the program was conducted as compared to before or at the outset of the program. Item 4 shows an increase, but only of 10 percentage points. The final percentage of respondents who answered correctly or favorably may still be undesirably low. Results like these are not uncommon. It is especially incumbent on pre-post survey users to plan their analyses in advance and to set targets (see step 4) so that results can be used. ***Overall, the potential is great for expending substantial effort to get a relatively small amount of potentially questionable results.***

## What are the options if pre-post surveys aren't the right choice?

There are alternatives to pre-post designs. These include **post-only surveys**, where responses are compared to targets for desirable response, and **retrospective surveys** where both pre- and post-type items are asked at a single point in time. (For example using a post first strategy a respondent would be asked how much they know now compared to what they knew when they started the program; or in a pre first strategy a respondent would be asked to think about what they knew when they started and compare it to what they know now that they have finished. Either could be used to measure attitudinal or behavioral change as well.) Questions on a retrospective survey would look something like the following.

Sample Question from Retrospective Survey

	Do Not Do	Seldom	Sometimes	Most of the time	Always
1a. How often do you now plan meals ahead of time?					
1b. Before ENP how often did you plan meals ahead of time?					

Results from a retrospective survey might look something like the following. As always, clear targets for desired levels of change should be determined before survey administration.

Positive Behaviors	Pre ( <i>Most of the Time + Always</i> )	Post ( <i>Most of the Time + Always</i> )	Change in frequency
<b>Resource Management</b>			
Plan Meals	19%	64%	45
Compare prices	49%	86%	37
<b>Nutrition</b>			
Read labels	17%	60%	43
Eat vegetables	23%	71%	48
<b>Food Safety</b>			
Wash utensils	84%	98%	14
Cook meat	84%	98%	14

Source: Raidl, et al. "Use Retrospective Surveys to Obtain Complete Data Sets and Measure Impact in Extension Programs." *Journal of Extension*, vol. 42, no.2, April 2004.

As with all survey results there will be concerns with the validity or accuracy of self-reported information. All surveys should be tried out in advance with test respondents who are similar to actual respondents, and they should be reviewed by stakeholders to determine if results will be trusted once they are obtained. Those who are committed to using survey findings to inform data-driven decisions (i.e., to use an evaluative approach to their work) can and should think carefully about the limitations and challenges, effective strategies and especially pre-post considerations described in this bulletin.