

Developing Effective Program Evaluation Surveys

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A program evaluation survey is a set of questions for gathering data to help determine if (or the extent to which) a program achieved its outcomes. Surveys are inexpensive and offer program evaluators the opportunity to gather anonymized data from program participants, thereby promoting honesty in responses. However, surveys are not without limitations. They are subject to recall bias and limited by self-reporting and potential misunderstanding or misinterpretation of questions or response options.¹ Despite these drawbacks, surveys are the most common tool for collecting data about the outcomes and impact of Extension programs.

This publication provides an overview of the steps involved in developing program evaluation surveys (Figure 1) and offers tips to guide Extension professionals in creating surveys that measure program outcomes and impact.

Ideally, development of program evaluation tools (i.e., the implementation of the five steps described in Figure 1) should occur during the program planning phase before program implementation. Appendix A provides a worksheet to guide Extension professionals in the survey development process.

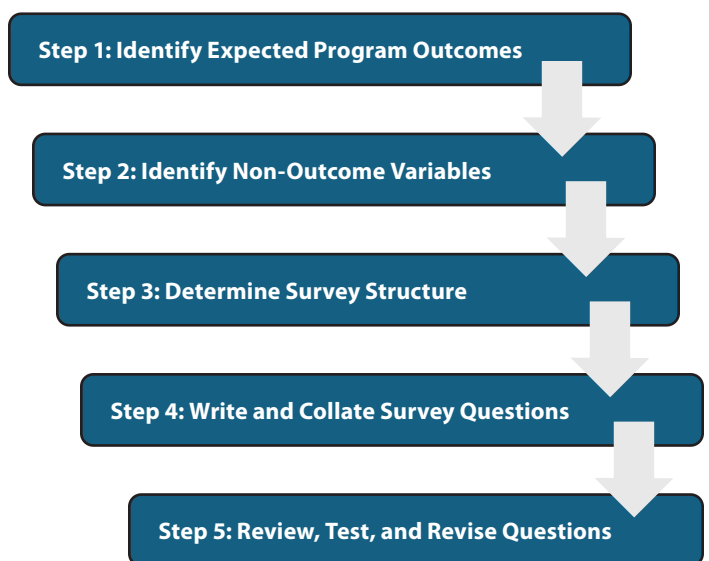


Figure 1: Steps Involved in Developing Effective Program Evaluation Surveys.

Step 1: Identify Expected Program Outcomes

The first step in developing effective program evaluation surveys is to identify the specific program outcomes that the survey will measure. What is it that you want Extension clientele to gain from participating in your program? Program outcomes refer to the measurable or observable end-results attributable to a program² or the change(s) that occurred in individuals, groups, families, businesses, or in the community because of a program.³

There are three levels of program outcomes: short-, medium-, and long-term outcomes.⁴

- **Short-term outcomes** refer to the immediate knowledge, awareness, attitudes, opinions, skills, and/or aspirations that participants are expected to gain or improve because of their contact with the program.
- **Medium-term outcomes** are the new or improved practices, behaviors, or choices that are expected to occur in participants or communities because of the knowledge or awareness they gained from the program.
- **Long-term outcomes** refer to the economic, social, physical, or environmental situations that are expected to change because individuals or communities adopted new (or improved existing) actions, practices, and behaviors.

(Please see *Identifying Extension Program Outcomes (CLD 4-3)*² for examples of outcomes for program scenarios that represent Extension programmatic areas).

Step 2: Identify Non-Outcome Variables

The second step is to identify non-outcome variables to be measured. Agents, specialists, and associates may think of these variables as information they can collect from participants to understand their experiences in the program, identify areas of the program that can be improved, or assess the effectiveness of program marketing and recruitment strategies. The information may be used to guide future program development and promotion.

Examples of non-outcome variables or questions that may be included in program evaluation surveys include:

- Demographic variables (e.g., participants' age, race, level of education, household structure and income).
- Variables assessing participants' perceptions of, and/or satisfaction with the program.
- Questions regarding marketing channels (e.g., social media, flyers and television or radio advertisements) through which participants learned of the program.

To avoid lengthy surveys, it is important to limit non-outcome variables to only those that are necessary for program improvement or evaluation reporting.

Step 3: Determine Question Structure

This step focuses on making decisions about the **types of questions to include** in the survey, **frequency of data collection**, and **survey delivery mode**.

Step 3a: Types of Questions to Include

Determine the type(s) of question that is best suited for each of the identified outcomes. There are two broad categories of survey questions—closed- and open-ended questions:

- **Closed-ended questions** require respondents to select one or more from a list of response options. Often, the goal of closed-ended questions is to generate quantitative data. Examples of closed-ended questions include dichotomous questions (i.e., Yes vs No, True vs False questions); multiple choice questions (i.e., questions requiring respondents to select only one option or all options that apply); and rating scales (e.g., Likert scales measuring level of agreement with statements).
- **Open-ended questions** require respondents to provide their own responses and are used to generate qualitative data.

Appendix B provides examples of closed- and open-ended questions. When selecting question type(s), consider the program context and participants' characteristics. For example, open-ended questions may not be the best choice for young children and participants with limited reading and/or writing skills. This is because these groups may have difficulty with writing and/or expressing their opinions.

Step 3b: Determine Frequency of Data Collection

The next step is to determine the frequency and timing of outcome data collection. While applicable for all programmatic areas, consider a 4-H agent planning to assess the impact of *Superstar Chef*, a nutrition education program for youth, on participants' cooking confidence. This 4-H agent has the following options for timing and frequency of outcome data collection:

- **Classic Pretest and Posttest:** In this format, the agent will assess participants' cooking confidence before and after implementing *Superstar Chef*. This option is best suited for assessing pre-post changes in outcomes in situations where program participants are not transient and where the agent or specialist will have access to participants both before and after the program. Appendix C1 provides an example of a pre-post evaluation tool for *Superstar Chef*.
- **Posttest Only:** In this format, the agent will measure program outcomes at program exit only. Typically, questions about program outcomes are written in a manner that reflects what participants learned or did differently because of their participation in the program. Appendix C2 provides an example of a posttest only evaluation tool for *Superstar Chef*.
- **Retrospective Pre-Posttest:** This option allows the agent to assess changes in participants' cooking confidence by soliciting pretest and posttest data together after program implementation. This option is best for scenarios where the agent or specialist is interested in assessing change but may not have access to participants before their participation in the program. Appendix C3 provides an example of a retrospective pre-post evaluation tool for *Superstar Chef*.
- **Follow-up:** This format can stand alone or can be an extension of the three previous formats. Typically, follow-up questions are used when the agent or specialist is interested in assessing behavior change after participants must have had sufficient time to practice or implement the skills or lessons learned from the program. The specific time to conduct the follow-up depends on how long the behavior of interest takes to mature. Appendix C4 provides an example of a follow-up evaluation tool for *Superstar Chef*.

As shown in the examples provided in Appendices C1 through C4, agents, associates, and specialists can measure an outcome (in this case cooking confidence) in different ways, depending on the anticipated frequency of data collection.

Step 3c: Select Appropriate Survey Delivery Mode

Decide on the appropriate mode of survey delivery. In Extension program evaluation, paper-based, online, and phone-based are the three common survey delivery modes. When deciding on survey delivery mode, it is important to consider participants' characteristics and contexts (e.g., access to internet and access to mobile devices). For example, internet surveys may not be well suited for collecting program evaluation data from rural farmers with limited access to broadband internet. Table 1 summarizes the advantages and disadvantages of these three survey modes.

Step 4: Write and Collate Questions

An effective program evaluation survey measures the expected outcomes of the program. Developing an effective survey primarily involves writing questions to measure the program outcomes and other variables of interest. The decisions made in the preceding steps have implications for the actual development/writing of the questions. Below are a few tips for writing effective survey questions (see Harvard University's [Questionnaire Design Tip Sheet](#) for additional tips):

- **Write simple, clear, easy to understand, and succinct questions.**
 - Use words that program participants will understand. For example, instead of saying “exhausted” say “tired” and instead of “leisure” use “free time.”
 - Ask only one idea per item—avoid double-barreled questions. For example, instead of asking participants “what amount of fertilizer and herbicides did you use in the last growing season?” separate into two questions: “What amount of fertilizer did you use in the last growing season?” and “What amount of herbicides did you use in the last growing season?”

- **Use complete statements and avoid the use of acronyms, abbreviations, and technical jargon.** For example, instead of asking participants if they have obtained a “BP” monitor since participating in the *Healthy for Live* program, ask if they have obtained a “blood pressure” monitor since participating in the *Healthy for Live* program.
- **Avoid leading questions that may bias respondents.** For example, instead of asking participants to indicate the extent to which they “agree” with a statement, ask them to indicate the extent to which they “agree or disagree” with the statement.

Step 5: Review, Test, and Revise Questions

Survey development is a repetitive process of refinement. After writing an initial draft of the survey, review and use feedback from others to improve the survey. Consider having colleagues, volunteers, or potential end-users review and provide critiques.

Although beyond the scope of this article, agents, associates, and specialists may also collaborate with a program evaluation specialist to conduct statistical tests of the validity and reliability of the survey. Statistical tests require special expertise. However, agents, associates, and specialists can conduct non-statistical validity checks such as content validity or expert reviews to obtain feedback from content experts and potential survey respondents. Such feedback can be used to ensure that the survey questions align with the program outcomes, implementation context, and participant characteristics.

To ensure the effectiveness of surveys, begin developing them well in advance of program implementation to allow time for review, refinement, and potential pilot testing. Consider allocating at least a week for each phase: development of the initial survey, review, incorporation of feedback, and if necessary, pilot testing. It is important to also build in time to reflect and analyze a survey after implementing to identify potential areas for continued improvement.

Table 1: Advantages and Disadvantages of Paper-Based, Online, and Interviewer-Based Surveys.

Survey Delivery Mode	Advantages	Disadvantages
Paper-based	<ul style="list-style-type: none"> • Accessible for participants with low digital literacy. • Does NOT require participants have access to a device or internet. 	<ul style="list-style-type: none"> • Requires agents to enter data after survey delivery (time-consuming and error-prone). • Accrues additional costs for printing and mailing.
Online	<ul style="list-style-type: none"> • Free distribution (e.g., using Qualtrics). No printing or mailing costs. • Survey responses are automatically stored. 	<ul style="list-style-type: none"> • Requires participants to have access to a device and internet. • May not be accessible for participants with low digital literacy (leading to low response rate)
Phone-based (interviewer-administered)	<ul style="list-style-type: none"> • Accessible for participants without internet access. • Accessible for participants with low-literacy levels and/or disabilities. • Interviews can lead to higher-quality responses than a manual survey. 	<ul style="list-style-type: none"> • Requires agents' time to schedule and conduct interviews. • Requires agents to enter data after survey delivery (time-consuming and error-prone)

Note: Interested readers should see [University of Florida's Savvy Survey series](#) for more on survey delivery modes.

Conclusion

In conclusion, it is important to keep program evaluation brief by focusing primarily on the questions that target the outcomes and other variables of interest. Agents, associates, and specialists will obtain more meaningful impact data from a brief survey consisting of 5-7 good questions targeting program outcomes, than a long survey with irrelevant questions that distract from program outcomes. Of note: In some circumstances it is more practical and efficient for Extension professionals to adapt an existing survey than to create an entirely new one. To identify existing surveys that can be used or adapted for evaluating their own program, agents and specialists must consult trusted sources (e.g., peer-reviewed publications and reports from reputable organizations) that not only provide survey questions but also evidence of their validity and reliability.

References

1. Turocy, P. S. (2002). Survey Research in Athletic Training: The Scientific Method of Development and Implementation. *Journal of Athletic Training*, 37(4 suppl), S-174.
2. Adedokun, O. A. (2024). *Identifying Extension Program Outcomes*. Lexington, KY: University of Kentucky Cooperative Extension Service. CLD 4-3 (Revised Content). Available at: <https://publications.ca.uky.edu/cld4-3>.
3. Adedokun, O. A. (2024). *Writing Effective Success Stories*. Lexington, KY: University of Kentucky Cooperative Extension Service. CLD 4-4 (New Content). Available at: <https://publications.ca.uky.edu/cld4-4>.
4. W.K. Kellogg Foundation. (2004). *Logic Model Development Guide: Using Logic Models to Bring Together Planning, Evaluation, and Action*. W.K. Kellogg Foundation.

Appendix A: Question Development Worksheet

Outcome	Question Structure (Type) ¹	Timing ²	Specific Question to be Asked (& Response Categories) ^{3,4}
Short-term Outcomes			
1.			
2.			
Medium-term (Intermediate) Outcomes			
1.			
2.			
Long-term Outcomes			
1.			
2.			

¹ **Question Type:** Open- or closed-ended ? If selecting a closed-ended structure, determine if this will be a “yes” or “no,” multiple-choice question, or a scale.

² **Timing:** How often (and when) will participants provide data? Retrospective pretest, pre-posttest, posttest only, or follow-up.

³ **Specific Question:** What specific question(s) will you ask participants to determine if the outcome(s) was achieved? Provide appropriate response categories.

⁴ Please note that you are not limited to one question per outcome. Some outcomes are constructs (e.g., self-esteem) that may be assessed with a scale or multiple questions.

Appendix A: Question Development Worksheet (continued)

Outcome	Question Structure (Type) ¹	Timing ²	Specific Question to be Asked (& Response Categories) ^{3,4}
Non-Outcome Variables (participants' demographic characteristics, perceptions of, and satisfaction with the program, and/or marketing channels).			
1.			
2.			
3.			

¹**Question Type:** Open- or closed-ended ? If selecting a closed-ended structure, determine if this will be a "yes" or "no," multiple-choice question, or a scale.

²**Timing:** How often (and when) will participants provide data? Retrospective pretest, pre-posttest, posttest only, or follow-up.

³**Specific Question:** What specific question(s) will you ask participants to determine if the outcome(s) was achieved? Provide appropriate response categories.

⁴ Please note that you are not limited to one question per outcome. Some outcomes are constructs (e.g., self-esteem) that may be assessed with a scale or multiple questions.

Appendix B: Types of Questions

Open-Ended Questions

Example 1:

Please explain how your participation in the *Family First* program has improved your parenting skills:

Example 2:

Thank you for attending the *Garden Safety* workshop today. Please tell us how you will use the lessons from the workshop to improve your home garden

Closed-Ended Dichotomous Questions

Example 1:

Please circle the option that best describes your response to the following statements:

1. Participating in *Job Master* improved my interviewing skills.
 - a. Yes
 - b. No
2. While participating in *Job Master*, I learned how to manage my work-life responsibilities.
 - a. Yes
 - b. No

Example 2:

Please circle the option that best describes your response to the following statements:

Statements	True	False
Orange is a rich source of Vitamin C.	True	False
Tomato wilt is a fungal disease.	True	False
Carrot is not a source of Vitamin A.	True	False

Appendix B: Types of Questions (continued)

Closed-Ended Multiple Choices Questions

Example 1:

Please indicate the extent to which you agree or disagree with this statement by circling the option that best describes your response:

While participating in *Away with Weeds*, I learned how to calibrate my sprayer(s)

- a. Strongly Disagree
- b. Disagree
- c. Agree
- d. Strongly Agree

Example 2:

Which of the following best practices have you implemented since participating in *Nourish Your Pasture*? Please select all that apply.

- a. I have completely reestablished a pasture.
- b. I have overseeded a pasture.
- c. I have applied herbicide for weed control.
- d. I periodically rested my pasture.
- e. Other (please specify): _____
- f. I have not implemented any of these best practices since participating in *Nourish Your Pasture*.

Appendix C: Question Formats Based on Frequency of Data Collection

Appendix C1: Classic Pretest-Posttest Format

Superstar Chef Pre- and Post-Participation Evaluation Survey

Please rate your agreement or disagreement with the following statements. Please circle the option that best describes how you feel about each statement.

Statements	Strongly Agree	Agree	Disagree	Strongly Disagree
I am confident that I can help make a family meal.	1	2	3	4
I am confident that I can cut up food using a knife.	1	2	3	4
I am confident that I can measure ingredients correctly.	1	2	3	4

Appendix C2: Post-Only Format

Superstar Chef Post-Participation Evaluation Survey

Please rate your agreement or disagreement with the following statements. Please circle the option that best describes how you feel about each statement.

Statements	Strongly Agree	Agree	Disagree	Strongly Disagree
After participating in Superstar Chef, I am confident that I can help make a family meal.	1	2	3	4
After participating in Superstar Chef, I am confident that I can cut up food using a knife.	1	2	3	4
After participating in Superstar Chef, I am confident that I can measure ingredients correctly.	1	2	3	4

Appendix C: Question Formats Based on Frequency of Data Collection (continued)

Appendix C3: Retrospective Pre-Posttest Format

Superstar Chef Retrospective Pretest-Posttest Evaluation Survey

Please tell us if your level of agreement or disagreement with the following statements changed because of your participation in the Super Star Chef program. Please indicate your level of agreement or disagreement with the statements both BEFORE and AFTER the training by circling a number (1-4).

Statements		Strongly Agree	Agree	Disagree	Strongly Disagree
I am confident that I can help make a family meal.	Before Superstar Chef	1	2	3	4
	After Superstar Chef	1	2	3	4
I am confident that I can cut up food using a knife.	Before Superstar Chef	1	2	3	4
	After Superstar Chef	1	2	3	4

Appendix C4: Follow-up Format

Superstar Chef Follow-up Evaluation Survey

Please tell us if you have done any of the following since participating in Superstar Chef. Please circle the option that best describes your response to each statement.

Statements	Yes	No
Since participating in Superstar Chef, I have helped make meals at home.	Yes	No
Since participating in Superstar Chef, I have prepared a new recipe all by myself.	Yes	No
Since participating in Superstar Chef, I have helped my family to create a grocery shopping list.	Yes	No

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