

## **Suggestions for Survey Design: Things to consider when conducting a survey**

Did you know that Mt. San Antonio College has conducted over 50 surveys in the past two years? The research office conducts annual surveys of first-time freshmen (for over 20 years) and Mt. SAC graduates (since 2001). We also conduct surveys on student engagement, employee satisfaction, program review and dozens of special projects. Survey results can be used for many purposes, so ask us about existing surveys before creating a new one. If we don't have what you need, we may be able to add a question to an existing survey that will serve your purpose and save everyone time.

### **Surveys are an indirect method of assessment, often used:**

- To assess how and why students learn,
- To measure student and staff satisfaction,
- To establish baselines for future objectives,
- To determine if objectives have been met, and/or
- To analyze trends across time.

We use surveys to gather information about the perceptions, attitudes and behaviors of our students, staff and community members. If you are thinking about conducting a written, telephone, or online survey, the research office has resources to assist you. This brief is designed to provide you with basic information about the seven steps of every survey. Many of these steps overlap; therefore thinking through the entire process is best done at each major phase.

- Phase One: 1) planning, 2) developing content and design, 3) formatting the layout,
- Phase Two: 4) survey distribution, 5) data collection and data processing,
- Phase Three: 6) data analysis, 7) reporting and use of results.

# Things to consider when conducting a survey

## Step 1. Planning the Survey

One can literally get a Masters degree in survey methodology, but these few words will help you get started without taking all those extra courses. Some projects can be done in a matter of weeks, while other projects can take over a year to complete. Oftentimes we need to plan well in advance simply to capture the right audience at the right time. Planning well makes a huge difference.

**Specify your purpose.** Clearly identify your purpose for doing the research. Ask yourself: What do I need to know and how can the results be used? This is critical to creating an effective questionnaire. If you are working with Student Learning Outcomes, your SLO/AUO objectives should closely match your survey purpose statement. Once you have refined your purpose, write it down. You will include the purpose statement in a cover letter to your respondents.

### EXAMPLE PURPOSE STATEMENTS

The purpose of this annual survey is to measure employee satisfaction with the quality and timeliness of our services. The results will be used to benchmark levels of satisfaction in six areas with plans to improve our overall satisfaction over time.

The purpose of this survey is to document the impact of the tutorial program on student learning and success. This survey will provide answers to the following five questions:

- Which concepts do students understand least? Best?
- Which teaching methods are most effective for each type of student?
- What are the barriers to successful course completion?
- Are students applying the skills they learned? If so, how?
- What subjects and formats are most popular for future training activities?

The results of this survey will be used to improve student learning in the tutorial program.

## Things to consider when conducting a survey

**Identify your target respondents.** Now that you have identified your purpose, you should identify your target respondents. Who is most capable of providing the information you need? Who is most likely to respond? The respondents to most surveys at Mt. SAC are students, staff, and community members. It helps to be specific. Do you need to survey current students, entering freshmen, prospects, graduates or alumni? Remember to survey non-participants of services, program leavers, or students that drop, especially if their opinions could be different from participating or currently enrolled students. Later you will determine whether to survey everyone in the target population or just a sample.

**Decide on a mode of delivery.** Surveys can be given online, by phone, mailed, or conducted on site. Each mode has various strengths and weaknesses, especially related to time, cost, and staff resources. The questions you ask also determine which delivery mode is best suited to your purpose. In all cases, shorter surveys with concise questions are best. Scanning software can help with collecting data. The research office has online survey and scanning\* software that are user-friendly and inexpensive.

*\*See our handout: Instructions for the Remark Survey Scanning System.*

**Choose a sample.** In some cases, you will want to survey everyone in your target population. In other cases it is impractical or too costly. If you need to make general statements about the entire population based upon your survey results, proper sampling requires choosing a **random and representative sample**. Results from surveys that do not have a random, representative sample cannot be generalized about the entire population. The research office can assist you in selecting respondents and estimating your sample size, based on the expected **response rate** (the percentage of surveys completed).

### EXAMPLE A

A population is all students graduating from the Histotechnology program during the last three years (N = 40). This population is small, so you would choose to survey everyone.

## Things to consider when conducting a survey

### EXAMPLE B

Imagine your population is all students enrolled in English 67 during the fall semester (N = 2142). To be able to generalize your findings toward a population of this size (with 95% confidence), you need 326 randomly selected respondents. If you plan to give a survey in class, your response rate will be high enough that you could choose a sample of 12 or more randomly chosen ENGL 67 classes (n = 350). However, if you plan to use a mail survey the response rate will be lower; therefore your sample needs to be higher. A mail survey with a 25% response rate of 1,300 randomly selected students would produce a sample of 325.

There are several factors that affect the usability of your survey results. A survey question is **reliable** if answers are consistent over time across similar audiences with similar experiences. A survey item is **valid** if it accurately measures what is intended. It can be costly and time-consuming to validate assessment instruments; however, locally-developed surveys can produce usable results if you use sound practices (like those listed in this brief). Make every effort to obtain a high response rate from a representative random sample and if possible, conduct a pre-test of the survey with individuals like those in your target audience to ensure that the questions are clear and the range of answer choices are complete.

### Step 2 - Developing content and design

There are several considerations to make when developing the content and design of your survey. Since respondents are not required to participate, be considerate of their time. Keep it short. You should consider the characteristics of your respondents such as their age, education and other demographic factors. Consideration of these factors will help frame the type, number and wording of the questions you ask.

It is important to **keep your survey simple**. Your questions should be easily understood and interpreted by your target audience. The number of questions should cover the various aspects associated with your purpose, but should not be so exhaustive that your respondents will be reluctant to complete the survey. For paper surveys we suggest a three question minimum and no more than two 11 x 14 pages printed on both sides.

# Things to consider when conducting a survey

**Develop your questions.** Rule #1: Ask only the questions that provide the information you need to make decisions that will lead to changes within your control. Here are some ground rules to keep in mind:

- Each question should relate directly to your survey objectives.
- Every respondent should be able to answer every question.
- Each question should be phrased so that all respondents interpret it the same way.
- Each question should provide answers to what you need to know, not what would be nice to know.

**Design response alternatives.** Once the questions are created, you will need to develop response alternatives (answer choices). There are a few issues to keep in mind. You should decide if your questions will be closed-ended (multiple choice, rating scales, etc.) or open-ended (fill in the blank). **Closed-ended questions** are often desirable since the responses are easy to count and share. **Open-ended questions** are valuable because comments can provide insights that were not foreseeable. They can also provide richer, more descriptive information than can be collected from closed-ended questions. Note: the research office requests that you analyze your own open-ended responses.

When picking response alternatives, careful attention should be paid to ensure that they make sense to the respondent and capture what is intended. Sometimes a short statement before a set of questions helps respondents understand what you are asking. One special consideration to make when deciding to use Likert rating scales is the number of choices and whether or not to include a neutral category. If you are presenting respondents with a scale such as their level of agreement with a statement (e.g., five point scale: *strongly disagree, disagree, neutral, agree, or strongly agree*), you will need to decide how many choices to give respondents. For adults, we recommend using a five to seven-point scale. You must also decide whether to include a neutral category, or a no opinion or not applicable response, if it seems appropriate. The research office can assist you in developing questions and response alternatives, including scaled measures.

# Things to consider when conducting a survey

Now you are ready to develop your questions, here are some sample formats:

- Binary (e.g., Yes/No, Male/Female)
- Multiple Choice (choose one from a list)
- Check List (choose all that apply from a list)
- Ranking (i.e., rank the following in order of preference, from 1 to 10)
- Sums (i.e., total must equal 100%)
- Likert rating scales (Strongly Agree, Agree, Disagree, Strongly Disagree)
- Semantic difference (e.g., Helpful – Not Helpful)
- Ecosystem (paired questions, such as Importance and Satisfaction)

Some questions to avoid include the following:

- 1) Double-Barreled (questions that ask about two different things)
- 2) Biased questions
- 3) Loaded questions
- 4) Time and distance (or difficult to recall questions)
- 5) Vague or confusing questions
- 6) Negatively phrased (questions with no, not, none)
- 7) Redundant questions
- 8) Questions that cannot be used to make a decision or effect a change. For example, do not ask if students prefer 6 AM classes unless we plan to offer them.

## Step 3. Formatting the layout

Regardless of how you deliver your survey, you need a cover letter or opening statement that tells respondents the purpose of the survey and explains how the information will be used. It is essential to express courtesy and respect to your intended audience. Include a confidentiality statement, if appropriate. Your introduction should state how long it will take to complete the survey and how respondents might benefit by participating. If you are mailing the survey, mention the due date and how to return the survey.

## Things to consider when conducting a survey

It is important to group your questions according to topic and response type (keeping items with similar alternatives together). Make sure that the order of questions makes sense to the reader. Start with the most relevant or interesting questions, then work down to the mundane demographic questions, if they must be collected. Avoid collecting curiosity items or data that is already available. Numbering the questions will make it easier for people to follow. Lastly, try to keep the layout as simple as possible.

Surveys that can be scanned are a fast, efficient way to enter data and allows for easier analysis. If you want your survey to be scannable, special consideration must be made to ensure that the layout is compatible with the software. See the research office first.

### Phase Two - Conducting the Survey

**Step 4. Distribute the survey.** Depending on your mode of delivery, consider how your survey will be distributed. Surveying students while they are in class, waiting in line or during orientation, will likely result in a higher response rate. However, in-class surveys can interfere with instruction. In most cases, follow-up surveys and reminders will be required. In fact, as many as four survey reminders or follow-ups may be needed to obtain a desirable response rate (the percentage of surveys completed).

**Step 5. Collect and process the data.** Whether by mail, phone, paper, or online, someone needs to collect responses and process the data. Mail surveys are expensive and have notoriously low response rates -- be prepared to handle returned surveys due to bad addresses. Telephone surveys require specific protocols. Paper surveys need to be scanned or have someone enter the data into an electronic format. Online surveys are easy and efficient; however not everyone has access to email or the Internet. Regardless of the delivery mode, your data will need to be processed. Again, research or Information Technology can assist you.

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## Phase Three – Producing Results

**Step 6. Analyze the data.** It is tempting to add up the numbers, calculate the percent and stop there; however, readers need to know how closely your respondents represent the entire population. Your data may contain extreme cases (outliers) or missing responses. There may be relationships (associations, correlations) between questions (variables) that offer additional insights. Some findings may be statistically significant, or not. There may be other research available for comparison. Of course you may do your own analysis; however the research office can assist you as needed.

**Step 7. Report your findings.** Many times survey results are shown as the number and percent of responses for each question and category. In the vast majority of cases, the reports can and should be done simply. Typically, all that is needed is to report the number or percentage of responses that fall into each category. Simple bar or pie charts can also be effective in conveying the results of a survey to diverse audiences. Never report individual level data. Avoid using three-dimensional figures. While they might be engaging at first, they can be confusing or appear to distort the data slightly.

**Use of results.** It is important to share how your survey results were used to make changes or improvements. Share your results with the research office or the SLO-AUO Implementation Team, especially if either were involved with the project. Make sure to distribute findings to a wide audience and especially your survey participants. Students, faculty, staff, and community members appreciate knowing that the survey they participated in led to an improvement or change. As a consequence, they are more likely to participate in future surveys.

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## Research Ethics

As long as your survey is being conducted as a normal part of your work at Mt. SAC, you do not need to seek ethics approval. However, if your project is for your own personal interests (i.e. graduate or post-graduate research, or a personal interest outside of work), you need to contact the Director of Research & Institutional Effectiveness to discuss your survey research project to determine whether it needs to go through an ethics review.

## How can institutional research help?

The Office of Research & Institutional Effectiveness can help you with survey design, distribution and collection of surveys, data analysis and the final report. The office also has many surveys that can serve as examples. If you would like assistance with your survey, please contact:

Director of Research & Institutional Effectiveness    x4109

Educational Research Assessment Analyst                x5505

## References

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- Suskie, L. (2004). *Assessing student learning: A common sense guide*. Bolton, MA: Anker.
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Free Services for Survey Researchers are available online at Creative Research Systems  
<http://www.surveysystem.com/resource.htm>