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A short guide to survey research

Eleta Exline

University of New Hampshire - Main Campus, eleta.exline@unh.edu

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As short guide to survey research (draft)

Eleta Exline, April 2013



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Planning your survey

This section introduces the elements you will need to include in a survey plan before you begin to design a survey. Several survey concepts will be introduced (*bold and italicized*) and defined.

A *survey instrument* is a research tool used to gather information about a group of people or things for a particular purpose. The survey instrument consists of the questions and response options with which your research participants will interact in order to provide you with data. Designing the survey instrument is one of the fun parts of conducting survey research (at least I think so!), and it is tempting to begin developing survey questions right away. However, before you begin thinking about specific questions you could ask in your survey, take the time to develop a brief survey plan to guide your work. A plan will enable you to focus your survey on what is most important to you, saving both your time and the time of your survey respondents.

A basic survey plan includes (1) identifying what you want to learn from your research, (2) identifying groups or people you are interested in learning about, (3) determining who you will ask to take your survey, (4) deciding how will you administer your survey, and (5) anticipating how you will use the information you gather.

1. What do I want to learn from my survey?

What are the goals of your survey project? Are there particular questions you would like to answer or is there specific information you would like to gather? Much as you would begin any research project, begin your survey research by developing a list of the research questions, problems, or concepts you would like your survey to address. If there are other people who will be interested in using the results of your survey, discuss your research questions with them - you may gain valuable insights about how your questions should be constructed. Understanding your research questions will help you identify the individual concepts that need to be included in your survey. Later, these concepts can be defined as *variables* that are *operationalized* and developed into survey questions that address those concepts.

A variable is a factor that varies across the data in a study. Surveys can be used to collect information about:

- attitudes and beliefs (predispositions, preferences, opinions),
- experiences and behaviors (study habits, drug use),
- factual knowledge or issue awareness (the capitol of Kansas, global warming trends), and
- demographics (race, age, gender, education level).

Each of these bits of information can be conceptualized as a variable. Variables are generally considered to be *continuous* or *categorical*. The responses to a continuous variable correspond to a numeric scale (age,

income, height) while the responses to a categorical variables divide your respondents into distinct groups (male or female, low/middle/high income). Some variables can be measured one way or the other. *Age*, for example, is continuous if measured in actual years. *Age* is categorical if the years are divided into brackets (18-29, 30-39, 40-49, etc.). [More on types of variables...](#)

Operationalization is the process of defining an abstract concept as a measurable variable. For example, if you are interested in how the study habits of the individuals in a class contribute to their academic performance, you might create a variable called *study effort* and define it as the amount of effort spent on academic pursuits. You could then measure *study effort* as the number of hours per week spent studying, reading, and working on assignments. You could also ask the students to rank themselves as studying more or less often than peers. Measuring an important variable in several ways can improve the validity of your results. The concept of study habits has several facets that could be defined as variables, such as whether students study in groups, where students study, and what time of day they study. Academic performance will also need to be defined as one or more measurable variables. Which variables you decide to use and how you will measure them depends on your research goals.

2. What group of people or things do I want to know something about?

The entire the group that you are studying, whether made up of people, places, or institutions, is your study *population*. Your population can be large (all the residents of the United States) or small (the members of a college biology class), but must be defined before you begin your survey. The population is the group to which you want to be able to *generalize* your results, that is, the group about which you want to be able to make conclusions based on your results.

A population is theoretical construct that includes all individuals that share one or more characteristics, such as *residents of the United States*, *students enrolled in Introductory Biology at UNH*, or *libraries in New England*. You may decide to include all members of a group in your population, or you may decide to exclude certain members for either practical or research purposes. For example, if your population is *residents of the United States* you might exclude children under 18 to avoid the need for acquiring parental consent (more on this in Ethical Considerations). For *students enrolled in Introductory Biology at UNH* you might exclude part-time students if your research goals only apply to full-time students. If studying *libraries in New England* you might choose to exclusively survey academic libraries as having particular characteristics not found in other types of library.

In defining what group you will study, think also about the *unit of analysis* that is of interest to you. The unit of analysis, or major entity being studied, can be:

- the individual,
- a group (family, class of students),
- an organization (library, company),
- a geographic unit (town, state), or
- a social interaction or event (a purchase, a lesson, a divorce).

3) Who will I ask to participate in my survey?

Unless your study population is small and you can include the entire population in your study, you will probably want to survey a subset of your population called a *sample*. There are several techniques for selecting a sample; the technique you choose will depend on both your goals and practical considerations. The sample must be representative of your population if you want to be able to generalize your results to that population. The extent to which you can generalize the results from your particular sample, which takes place at a specific place and time, to the study population that exists in other places and at other times is called *external validity*.

The two general categories of sampling methods are *probability* and *nonprobability*:

Probability sampling methods are related to statistical and probability concepts and require that every unit in the population have an equal chance at being selected to be in the sample. To achieve this, probability samples are selected by a randomized method. The primary benefit of using a probability sample is that it is possible to calculate sampling error rates, statistical significance of difference between groups, confidence intervals, and other statistics. Probability samples are also generally considered to be more generalizable than non-probability samples because they avoid systematic errors in sample selection. Probability sampling eliminates some sources of *sampling bias*. [More on probability sampling methods...](#)

Sampling bias is the extent to which the characteristics of the sample differ from the characteristics of the study population. Bias can be introduced by selecting too small of a sample, selecting a sample that does not represent your population, or low response rates to your survey.

Nonprobability sampling methods do not involve randomized selection. While a nonprobability sample may represent your population well, this fact cannot be statistically quantified, which limits your ability to generalize results to a larger population. Despite their limitations for the purposes of statistical analysis, nonprobability sampling methods are popular because they are convenient, less expensive than probability methods, and often provide sufficient information to serve the research goals of the project. So long as the results are interpreted with some caution, a non-probability sample is a perfectly acceptable method for gathering information. [More on nonprobability sampling methods...](#)

4) How will I administer my survey?

Once you've selected a sampling method, you must determine appropriate methods for reaching the members of your sample. Will you interview participants or ask them to fill out a questionnaire? Will interviews be done in person or over the phone? Will questionnaires be printed and handed out, mailed, or distributed online? The method for administering your survey should match the population and sample you have chosen. For example, if you are studying the library use experiences of a student population on a campus, it is fairly certain that all the students will have some Internet access. This would be less certain if you were studying poverty in rural areas. The *response rate*, or the percentage of people in your sample who respond, varies between methods - mail surveys get a very low response compared to phone interviews. You can improve response by using multiple administration methods, and by following up with non-responders when it's practical to do so.

5) How will I use the results of my survey?

Would you like to be able to compare the results of multiple surveys over time, or will your survey capture a one-time "snapshot" of a particular group? Will you produce a report with charts and graphs? Do you plan to publish your results? Are you interested in using statistical tests?

While you may find multiple uses for your data once your survey is complete, it is a good idea to identify a primary use before beginning to be sure that the question formats that you will use and the response formats that you offer will produce usable results.

Ethical Considerations

I recommend reading [Resnick's overview](#) of research ethics. This will give a good overview of the purpose and content of research codes of ethics. I'll point out just a few things that are particularly relevant to survey research:

- You need *informed consent* from your participants: informed consent means that the participants have been made aware of the general purpose, risks, and benefits of participating in your research and are doing so voluntarily.

- You must take special care when your study population might be considered especially vulnerable. These could include children, the incarcerated or institutionalized, and any social, ethnic, or racial group historically subject to discrimination. You may need parental consent for children.
- Any negative consequence for declining participation is coercive. Small material incentives for participation are usually not considered coercive (gift certificate for a small amount, a free USB drive, entry in a drawing for a moderate prize), but large material or monetary incentives may be. Coercion is subjective - if a reasonable person would in any way feel forced to participate, this is probably coercion.
- You may increase the risk to your survey participants by asking personal questions about sensitive subjects. Questions about sex, drug or alcohol use, income, or health should be asked only when necessary for the primary research goals and only when the confidentiality of the participants can be assured.
- Privacy of participants is extremely important (since you are mostly librarians with an existing ethical obligations to maintain patron privacy, I will not belabor this point). Risks to privacy can be subtle - in small populations it might be possible to identify individuals based on their responses. You can minimize this risk by collecting personally identifiable data only when necessary, reporting results only in aggregate so that individuals cannot be identified, and storing your data in a secure location.

To be sure that your participants are able to give informed consent, every survey should be accompanied by either a cover letter or introduction that explains the general nature of the survey, states that participation is voluntary, estimates the time it will take to complete the survey, and states how confidential information will be handled.

Getting IRB approval:

Research involving human subjects often requires the approval of your Institutional Review Board (or equivalent), if your institution has one. The purpose of the IRB is to protect your participants, therefore any required approval must be granted before the research takes place. Generally, any research you wish to publish or otherwise broadly disseminate should be IRB approved. Library and classroom assessments are often exempt; confirm this locally, as policies vary. The IRB will want to understand your research plan, including data handling, and see any research instruments (your survey document, for example) you plan to use.

Survey Formats

Survey instruments are typically used in two kinds of research studies: *cross-sectional* and *longitudinal*.

Cross-sectional studies observe a group of participants at one point in time or over a brief period. They are one-time only events that give the researcher a "snapshot" of data. Cross-sectional studies can reach back in time to a limited degree by asking participants to recall past events and experiences, but responses about past experiences are less reliable than those about current experiences.

Longitudinal studies use repeated observations to measure changes over time. Longitudinal studies fall into several sub-types:

Trend - a trend study samples different people from the same population at different times. An example of a trend study would be surveying a random sample of 100 students every year on the quality of library services. In this case you would use the same survey every year (with minor updates). A trend is like a cross-sectional survey run multiple times.

Panel - a panel study uses the same sample from the population, and that sample is surveyed multiple times. The surveys might be the same questions asked periodically to gauge changes in the panel's attitudes about a topic, or might have different questions. This type of survey requires a long-term commitment from both research and participant, as contact must be maintained over the entire course of the study. An example of a panel study would be a series of surveys gauging opinions about how well the a public library is meeting community needs that is sent to the same group of community members over the course of a three-year library service improvement effort. The longer a panel study is maintained, the more likely members will be lost due to attrition.

Cohort - a cohort study samples the members of a cohort over time. Different individuals from the cohort may be sampled each time a survey is run. Usually the participants in a cohort study are the same age or start participating in an activity at the same time, such as starting school. Cohort studies allow researchers to identify "cohort effects," or things that are observed in the group because the members have experiences in common due to the fact they have lived through the same period of time. An example of a cohort study would be to follow kindergartners that started school in 1985 and participated in a particular education program to see how they are fairing at different ages. This group could be compared to another group that did not participate in the program. Because of the time and expense involved in maintaining a cohort study, use of this research model is usually reserved for large projects involving many people. In life-long cohort studies, the research may be handed off from one research team to another multiple times.

Most of you will use cross-sectional or longitudinal trend studies most of the time, but I thought it would be good for you to know about the other options.

Best practices for writing survey questions

List adapted from Babbie, 2005.*

Make questions clear. Questions should be unambiguous and free from jargon that the respondent might not understand. Avoid vague terms. If the question might be misinterpreted, misunderstood, or have multiple meanings, find a clearer way of stating it.

Short questions are best. The respondent should be able to read and understand questions quickly.

Avoid *double barreled* questions. Make sure that each question addresses a single concept. Most survey questions should *not* contain the words "and" or "or" as a ways of linking two different concepts together. Ask two or more separate questions instead.

Ask questions the respondent is able to answer. Do not assume the respondent has in-depth awareness of current events, popular culture, or history. Do not ask people to recall past events that most people would not accurately remember. If your population is a particular group that would be expected to understand specific concepts and language, such as members of a profession, compose questions accordingly.

Ask questions the respondent is willing to answer. Even in an anonymous survey, people may be reluctant to reveal private information, report negative behavior, or offer opinions on sensitive subjects. Be aware that even if these questions are answered, the respondent may be likely to report information, behaviors, and opinions that are more socially acceptable than accurate. This is called *social desirability bias*.

Avoid biased terms. Terms that are associated with political rhetoric and words that have complex social histories may also result in *social desirability bias*. State your ideas in neutral terms and language that is not "loaded" with extra meaning.

Avoid leading questions. Leading questions assume a desired answer in the content of the question, leading

to either an annoyed participant (if he or she disagrees with the assumed right answer) or *social desirability bias*.

Questions should be relevant. Questions should apply to most respondents being surveyed. Irrelevant questions are annoying and will result in survey drop-out. If you know some of your questions are relevant to only part of your population, use a filter question that allows others to skip the question.

Avoid negative terms. State questions in the positive – avoid the use of “not” in your questions. When asked to agree or disagree with a negatively stated question, many respondents will be confused and pick the opposite of what they intend.

Questions and response options must match. There are many formats for questions and responses. Whether you use a multiple choice question, provide a space for an open ended response, or construct a Likert-type scale, all wording and instructions must be consistent.

Social desirability bias is the tendency to exaggerate “good” qualities or behaviors and minimize “bad” ones. Students may say they study more than they do, and practically everyone will say they exercise more or eat better than they do. Which topics are most sensitive or which behaviors most desirable may depend on social and cultural factors. Be particularly careful to use neutral wording when the question involves income, religion, politics, prejudice, violence, illegal acts, the body, or other sensitive topics. Do not include such questions unless you must

You will get the best results if you make the questions easy for your participants to answer, and easy to answer accurately! The best way to improve the quality of your questions is to test them on multiple people and get feedback.

*Babbie, E. R. (2005). *The basics of social research*. Belmont, Calif: Thomson/Wadsworth.

Question and Response Formats

Open-ended

Open-ended questions allow the respondent to provide his or her own "free text" response in a space provided on the survey. You may be able to limit the length of the response by the size of the space provide, or, in an online survey, the character limit allowed in the entry box. Open-ended questions allow for more complex and varied answers because they do not force respondents to confine their responses to preselected categories.

Advantages:

If you know the answers to a question will vary widely and you want to be able accommodate nuanced responses, an open-ended question may be in order.

Open-ended questions can provide a rich qualitative element to an otherwise pre-standardized data set. The responses provided might help you to interpret the results of the closed-ended questions.

Disadvantages:

Open-ended responses require extra analysis. Most often they are first analyzed for content so the major categories of response are identified, then the responses are hand-coded into those categories. Larger samples will require more analysis.

Open-ended responses are more work for the respondent. Too many on one survey can be tiresome. If the scope of the question is too large, the respondent may not want to spend the time required to respond.

Closed-ended

Closed-ended questions provide a set of predefined responses from which the respondent must choose. Response categories *must* be *mutually exclusive* and *exhaustive*. Mutually exclusive means that there is no overlap in the possible responses - each is clearly a category of its own. Exhaustive means that all possible response options are accounted for.

Example:

What is your age?

18-30
30-40
40-50
50-60
over 60

This possible responses to this category are not mutually exclusive, as there is overlap between categories. A 30, 40, or 50 year old is forced to choose between two categories. The categories are not exhaustive because they do not provide a possible response for those under 18. A better set of responses would be:

under 18
18-29
30-39
40-49
50-60
over 60

or

>18
18-29
30-39
40-49
50-60
60<

Adhering to both the concepts of mutual exclusivity and exhaustivity will make your survey questions much easier for respondents. Overlapping response categories and incomplete response options are two of the most frustrating errors encountered in survey questionnaires - many respondents will skip those questions or abandon the survey altogether.

The most common closed-ended question format is *multiple choice*, such as the example above. Multiple choice questions provide a set of categories from which a respondent can choose in response to a single question. If it is difficult or impossible to make a set of multiple choice options exhaustive because not all the possible categories are known, an open-ended "other" category can be included.

Example:

What is your favorite ice cream? (Please select one)

Chocolate
Vanilla

Strawberry
Other (please specify)

Advantages:

Multiple choice questions are popular because they are quick and easy to answer. The responses are easy to analyze because they divide respondents into separate and exclusive categories.

Disadvantages:

If the survey designer does not understand the concept being measured well enough to select good response categories, the categories won't accurately reflect the true range of responses, or the respondents' opinions.

Composite formats

Composite formats fall under the category of closed-ended questions, but involve either the presentation or analysis of multiple responses at a time.

Matrix

A matrix is a series of questions (often worded as statements) presented with the same response options, usually the classic *Likert* response categories of *Strongly Agree*, *Agree*, *Disagree*, *Strongly Disagree*, and *Undecided*. ([See variations on response categories](#) - 3 to 7 point scales).

Example:

Beside each of the statements below, please indicated whether you Strongly Agree (SA), Agree (A), Disagree (D), or Strongly Disagree (SD)

1. I am usually prepared for class..... [] [] [] [] []
2. I rarely need to ask for extensions on assignments..... [] [] [] [] []
3. I set aside time to study every week..... [] [] [] [] []

etc.

Advantages:

Matrices can make your survey appear to be shorter than it is by making efficient use of space. Respondents will be able to answer more quickly because they know what the options are after reading the first question or statement. The close grouping of questions allows respondents to see how they have answered previously, which leads to greater consistency in how they interpret the response categories, and greater comparability of their responses to different questions upon analysis.

Disadvantages:

Too many similar matrix statements in a row might condition the respondent to repeatedly choose the same response category - sometimes without really reading the questions/statements, or after reading too quickly. Sometimes questions are included in a matrix when they would be better as stand-alone multiple choice questions - this is particularly true if the response categories don't really fit the questions as well as a different set of customized categories would.

Index

To create an index, multiple questions are asked that attempt to capture some aspect of a single concept. The responses to these questions are assigned numeric values. The values are then added together to

generate a score that measures the broader concept. Indexes are often presented in a matrix format, but this isn't required.

For example, the three questions above, along with several more along the same theme, could represent aspects of the variable *studiousness*. We could assign points to the responses: SA-4, A-3, D-2, SD-1. If we had 8 questions, the range of studiousness scores would be between 8 and 32, with 8 being the least and 32 being the most studious.

Advantages:

Generating an index score simplifies analysis by condensing several responses into one data point. Comparing the scores of respondents is much easier than comparing the responses to each of the questions individually. Multiple questions can measure a concept more validly than a single question, especially if no single question captures all the aspects of the concept. If one of the questions doesn't measure the concept quite as well as the other questions, the impact of that question is minimized in the data.

Disadvantages:

There are no clear disadvantages to using an index if it fits your research purposes, other than those already mention in the Matrix section, if the matrix format is used. However, care should be taken to make sure that the items in an index actually contribute to measuring the concept, that is, the index must be *valid*. Validity is the extent to which a question, series of questions, or entire survey measure the concepts they are intended to measure.

Scale

Scales are similar to indices, but take into account patterns of responses and differences of intensity with which different items measure the concept. I won't try to explain here, as scales are difficult to construct properly and infrequently used (I've never used one), but I thought you should be aware of their existence.

Survey Structure

Cover letters and introductions

To be sure that your participants are able to give informed consent, every survey should be accompanied by either a cover letter and/or introduction that explains the general nature of the survey, states that participation is voluntary, estimates the time it will take to complete the survey, and states how confidential information will be handled.

If introductions and cover letters are basically the same, does every survey need both? Introductions are almost always included at the top of an online survey, especially if the survey is linked from a social networking site or any other Website. Cover letters, which can be longer and more detailed than an introduction, are often used when the survey is distributed by email (cover letter in the body of the email) or mail. Online surveys that might be distributed by multiple means should have both. Every person who encounters a survey should see at least one of these explanatory texts, but it's fine if they see both.

The time estimate in the introduction/cover letter should come from your survey pre-tests, i.e., they should relate to the actual amount of time it took other people to complete the survey.

Example of a survey introduction:

The Communication Committee is undertaking a survey in order to get a better understanding of how information is shared across the library. The results will be used to develop recommendations for

improving communication. Your participation in this survey is voluntary. Your responses will be completely anonymous - they will not be linked to your email address or any other identifying information. This survey should take approximately 10 to 15 minutes to complete.

Example of a survey cover letter:

Dear Eleta,

The Communication Committee, which is a sub-committee of the Library Policy Development Committee, is undertaking a survey in order to get a better understanding of how information is shared across the library. The survey will ask you to provide information about which Library communication venues you use most, and which you find most effective.

Your participation in this survey is voluntary. Your responses will be completely anonymous - they will not be linked to your email address or any other identifying information, and will be reported in aggregate with all other responses. This survey should take approximately 10 to 15 minutes to complete.

The results of this survey will be used to develop recommendations for improving communication in the Library. The recommendations will be discussed at the July Library-Wide Meeting, then posted in the Library Blackboard site.

Thank you in advance for your participation. Please contact a member of the Communication Committee if you have any questions.

Best regards,

Communication Committee:
(members listed here)

Please and thank you

Just as you start off your survey with a polite introduction or cover letter, you should end with a thank you. Not only will this give you a chance to express your appreciation to the participant, but also give an indicator to him or her that the survey is complete. You should also include a contact method, should the participant have a question or want to report some sort of problem with the survey.

Example a survey closing/thank you:

Thank you for taking the time to complete this survey! Should you have any questions or need to report a problem, please contact me:

Eleta Exline
eleta.exline@unh.edu

You may also need additional explanations, introductions, or instructions at major section breaks within your survey, or anyplace when extra information or instruction will help participants navigate your survey with ease. The goal of including these texts in the survey is clarity and ease of use.

Selecting your questions

Before you begin assembling your survey, you should have a draft list of the questions you would like to ask. Review this list you have made to make sure that all the questions are related to your research goals. It is fine to include some extra demographic questions so that you can better understand who makes up your survey sample, but don't include questions that are irrelevant, extraneous, or miscellaneous to your goals, no matter how much you'd like to know the answer! To be truly "user friendly," surveys must be as concise as possible. Respondents may abandon an overly long survey, or provide inaccurate answers just to be done

with it. This phenomenon is called *survey fatigue*.

Organizing your survey

A well-organized survey will be easier for participants to navigate. How you organize your survey will depend on the number and types of question you plan to ask, but here are a few guidelines that may apply:

- Group questions on the same topic together into sections and provide some description of the topic (a sentence or two) at the top of each section. This visually breaks up the survey into manageable chunks, and makes it easier for the respondent to know what to expect. This is most important for longer surveys.
- Provide adequate instructions on how to answer the questions wherever the instructions will be helpful. Generally, provide some overall instructions at the beginning (after the introduction), and give additional specific instructions any place where the process for responding isn't absolutely obvious.
- If possible, begin the survey with either your easiest or your most interesting questions to engage the respondent in the survey. End with the most difficult or sensitive questions. Provided the survey is well written, as the survey closes, your respondent will be both more invested in completing the survey and more confident that the survey is worth completing.
- Demographic questions can go at the beginning or the end. A good approach is to put the least sensitive ones in a group at the beginning (such as sex, age, and occupation), and more sensitive ones (such as income and race) in a group at the end. Only ask these questions if you think you'll use the data.
- In online surveys, use multiple pages, status completion indicators ("percent done" bar), sections headings, back and forward navigation, and any other navigational cues or tools that might help your respondent get from the beginning to the end without difficulty or confusion.
- In paper surveys, use readable and sufficiently large type-faces or fonts, provide adequate room for answering questions, and leave some space between questions for visual "breathing room." Even if you're planning a paper survey, you can still use a tool like Survey Monkey to design the layout, then print the survey as a PDF document - this might save you some design time.
- If you plan to ask contingency, filter, or "skip" questions, be particularly clear with your instructions. See next section on contingency questions.

Contingency questions

Contingency questions, also called "filter" questions or "skip" questions, lead the respondent through various possible paths of the survey depending upon his or her responses (like a "choose your own adventure" book!). Contingency questions add flexibility to a survey by allowing you to gather additional information from some groups of people while simultaneously avoiding asking irrelevant questions of another group.

In paper surveys, contingency questions will ask the respondent to either continue in the sequence of questions, skip some questions, or answer some extra questions. The same thing happens in an online survey, but the process is automatic, and therefore hidden from the respondent. For the contingency question logic to work in online surveys, those questions must be mandatory.

Example of a contingency question (as it would appear on a paper survey):

1. Have you ever borrowed a book or other items from the UNH Library?

Yes or No (if no, please skip to question 4.)

2. When did you last check out one or more items from the Library? (select one response)

Within the past month
Two to three months ago
More than three months ago

3. What types of items do you borrow from the Library MOST often (select one response)

Books (including books on tape or CD)
Music (cassette tapes or CDs)
Videos (VHS tapes or DVDs)

4. Have you ever attended a community program or event held at the Library?

Yes or No

Bonus tip: If you send out a survey where the unit of analysis is the organization, and it is possible that several people from each organization may contribute answers, do not use an online survey with contingency logic. I recently learned this the hard way: I sent out a survey on institutional repositories (IRs) to 17 libraries. The survey was sent to deans and directors with the instruction to give it to the person responsible for the IR. Since IRs are typically collaborative endeavors, the deans and directors sent the surveys out to as many as four people collectively responsible for the IR. Members of each group then tried to view the survey questions without actually answering so that they could figure out who was the best person to answer each question. Since the survey depended heavily on contingency question logic, the survey path (and therefore the questions) changed depending on the arbitrary answers provided to key questions. I soon started getting emails asking for a printable version of the survey that the participants could study before trying to take the real survey online. I had never meant for my survey to require the participants to do homework! The next time I am surveying organizations I will email a printable survey that has either no contingency logic, or just a couple of contingency questions with very clear instructions.

Pretest or Pilot your Survey

Survey pretests

The purpose of pretesting your survey is to discover any problems with survey design, including introductory text, instructions, layout, question language and syntax, and response options. Through pretesting you should be able to identify any significant flaws that would prevent your respondents from understanding and completing the survey quickly and accurately, which insures that you will collect meaningful data. Pretesting will also allow you to estimate the time it takes to complete the survey. Methods for pretesting vary from the simple to the complex ([here's a list of common methods](#)). The two I will discuss here fall on the simple end of the spectrum, but are effective nonetheless. When time and resources permit, I would suggest you use both, especially if you intend to survey a large sample.

1. Debriefing interview:

Ask several individuals (4 or 5) to take your survey and record any problems or confusing items as they go. Remember to record the time it takes for each respondent to complete the survey so that you can add an estimate to your introduction. Talk to your test participants individually about the survey process, focusing on any issues they identified while taking the survey.

Example questions for the entire survey:

- Did the respondent understand the general purpose of the survey?
- Was it clear how any private data would be used?
- Was the survey easy to take?
- Were there any questions that were awkward, ambiguous, or confusing?

- Did the survey seem overly long?
- Were the response options for multiple choice questions adequate?
- Were respondents uncomfortable answering any question?

Example questions for individual questions:

- Did this question make sense?
- What did the respondent think this question was about?
- Did the respondent understand how to answer this question?
- Did the response options available match the respondent's understanding of the question?

2. Cognitive interview ("think out loud" method)

In this method ask each respondent (one at a time) to talk about the survey as they are taking it. As needed, prompt the respondent with questions like "what were you thinking when you answered that question?," "what do you think you should do here?," and "what are you thinking right now?," Avoid leading prompts like "was that question confusing?". This method may feel a bit awkward at first, for both you and the respondent, but it gets easier. You may want a second person to either do the prompting or take notes - it can be difficult to do both at the same time.

This is a common technique for usability testing of Websites, so there is a lot of information online about the subject. I think [this one](#) has some good tips. You probably also have a copy of Steve Krug's book "Don't make me think" at your library - Krug outlines the "think out loud" method in a very practical way.

When pretesting by any method, remember that the process is meant to improve your survey, not educate the respondent. Resist the temptation to explain what you meant by a question or give hints on how to respond - you won't be able to offer this kind of help to every person who takes your survey.

Survey pilots

A pilot of your survey is a test run using a small group of participants (20 or so) from your intended sample. Pilots are most often used when the final sample will be large. The pilot should be conducted in a manner as close as possible to your final survey method. It is better if you do not inform the participants that this is a pilot - you want their behavior to be consistent with what they would do under real survey conditions. The purpose of the pilot is to identify any procedural issues and to get a sample set of data to review.

Any of the following in your pilot data might point to a problem with your survey, or with particular questions:

- Many "don't know," "not sure" or "neutral" responses - your question may be confusing.
- Many blank responses - the question may be confusing, too personal, or difficult to answer.
- Many "other" responses to multiple choice questions - you may have too few response categories, or have chosen the wrong ones. Look at the "other" responses in the data for guidance.
- Very short or missing open-ended responses. The response space provided may be too small, there are too many open-ended questions, or a different response option would be better.
- Similar questions have conflicting answers - your questions may be unclear or, if a matrix was used, respondents have fallen into a "response pattern." That is, they have started to select responses without fully reading the questions.
- Many missing responses toward the end of the survey - your survey is either too long or too confusing. Survey fatigue has set in.

The ultimate goal of a pilot is to improve the quality and consistency of the data you collect.

Questions about or comments on this document?

Contact Eleta Exline, University of New Hampshire, eleta.exline@unh.edu