**Questionnaire Design**

**General Considerations**

The first rule is to design the questionnaire to fit the medium. Phone interviews cannot show pictures. People responding to mail or Web surveys cannot easily ask “What exactly do you mean by that?” if they do not understand a question. Intimate, personal questions are sometimes best handled by mail or computer, where anonymity is most assured.

KISS - keep it short and simple. What will you do with the information from each question – if there is not a satisfactory answer, leave it out. Place questions into three groups: must know, useful to know and nice to know. Discard the last group, unless the previous two groups are very short.

Start with an introduction or welcome message. When sending emails requesting people to take a Web page survey, put main introduction or welcome message in the email. When practical, state the need for the information in the survey. A good introduction or encourages the completion of the questionnaire.

Allow a “Don't Know” or “Not Applicable” response to all questions, except to those in which all respondents will have a clear answer. Sometimes “Don't Know” or “Not Applicable” will really represent some respondents' most honest answers to some questions. Respondents who feel they are being coerced into giving an answer they do not want to give often do not complete the questionnaire. For the same reason, include “Other” or “None” whenever either of these is a logically possible answer. When the answer choices are a list of possible opinions, preferences, or behaviors, you should usually allow these answers.

**Question Types**

Researchers use three basic types of questions: multiple choice, numeric open end and text open end (sometimes called "verbatims"). Examples of each kind of question follow:

* Multiple choice
* Numeric Open End
* Text Open End
* Rating Scales and Agreement Scales: Rating Scales and Agreement Scales are two common types of questions that some researchers treat as multiple choice questions and others treat as numeric open end questions.

**Question and Answer Choice Order**

There are two broad issues to keep in mind when considering question and answer choice order.

1. How the question and answer choice order can encourage people to complete the survey.
2. How the order of questions or the order of answer choices could affect the results of the survey.

* The early questions in a survey should be easy and pleasant to answer. These kinds of questions encourage people to continue the survey.
* Whenever possible leave difficult or sensitive questions until near the end of the survey. Any rapport that has been built up will make it more likely people will answer these questions. If people quit at that point anyway, at least they will have answered most of the questions.
* Answer choice order can make individual questions easier or more difficult to answer.
  + Always present agree-disagree choices in that order. Presenting them in disagree-agree order will seem odd.
  + When using numeric rating scales higher numbers should mean a more positive or more agreeing answer.
* Question order can affect the results in several ways.
  + One is that mentioning something (an idea, an issue, a brand) in one question can make people think of it while they answer a later question, when they might not have thought of it if it had not been previously mentioned. Reduce this problem by randomizing the order of related questions. Separating related questions with unrelated ones can also reduce this problem, though neither technique will eliminate it.
  + The order in which the answer choices are presented can also affect the answers given. People tend to pick the choices nearest the start of a list
  + The other way question order can affect results is habituation. This problem applies to a series of questions that all have the same answer choices. It means that some people will usually start giving the same answer, without really considering it.

To reduce the habituation problem:

* + Randomize the types of questions
  + Ask only a short series of similar questions at a particular point in the questionnaire. Then ask one or more different kinds of questions, and then another short series if needed.
  + Change the “positive” answer. This applies mainly to level-of-agreement questions. Word some statements so that a high level of agreement means satisfaction and others so that a high level of agreement means dissatisfaction. This technique forces the respondent to think more about each question.

**Other General Tips**

Keep the questionnaire as short as possible. Have mentioned this principle before, but it is so important it is worth repeating. More people will complete a shorter questionnaire, regardless of the interviewing method

* Start with a Title
* Always include a short introduction - who you are and why you are doing the survey. If surveying members of an organization, the members may be more likely to respond if they think the organization is asking their opinions on how it can best meet their needs.
* Start with general questions. Start from general attitudes to the specific
* Make sure to include all the relevant alternatives as answer choices. Leaving out a choice can give misleading results.
* Do not put two questions into one. Be as specific as possible.
* The overriding consideration in questionnaire design is to make sure the questions can accurately tell you what you want to learn. The way a question is phrased can change the answers. Try to make sure the wording does not favor one answer choice over another.
* Avoid emotionally charged words or leading questions that point towards a certain answer. It is very easy to create bias in a questionnaire. This is another good reason to test it before going ahead.
* If comparing different items to find preferences, give each one a neutral name or reference. Do not call one "A" and the second one "B." This immediately brings images of A grades and B grades to mind, with the former being seen as superior to the latter. It is better to give each a "neutral" reference such "M" or "N" that do not have as strong a quality difference image.
* Avoid technical terms and acronyms, unless absolutely sure that respondents know what they mean. If an acronym must be used, spell it out the first time it is used.
* Make sure the questions accept all the possible answers.
* If only one answer is wanted from each person, ensure that the options are mutually exclusive.
* Score or rating scale questions (e.g., "If '5' means very good and '1' means very poor how would rate this product?") are a particular problem. Researchers are very divided on this issue. Many surveys use a ten-point scale, but there is considerable evidence to suggest that anything over a five point scale is irrelevant. This depends partially on education. Among university graduates a ten point scale will work well. Among people with less than a high school education five points is sufficient. In third world countries, a three-point scale (good/acceptable/bad) may be all some respondents can understand.
* Giving a verbal or written label to each point on a scale, instead of just the endpoints, will usually yield higher-quality data, though this may not be practical when there are more than five points on the scale.
* Another issue on which researchers differ is whether to use a scale with an odd or even number of points. Some like to force people to give an answer that is clearly positive or negative. This can make the analysis easier. Others feel it is important to offer a neutral, middle option.
* Be sure any rating scale labels are meaningful. If you have used a particular scale before and need to compare results, use the same scale. Four on a five-point scale is not equivalent to eight on a ten-point scale. Someone who rates an item "4" on a five-point scale might rate that item anywhere between "6" and "9" on a ten-point scale.
* Do not use negative numbers when asking for ratings. Some people do not like to give negative numbers as answers.
* Be aware of cultural factors.
* Always discount "favorable" answers by a significant factor. Unfortunately, there is no hard and fast rule on how much to do this. It depends on the situation. Experiments have shown that more people will agree than disagree. One way to eliminate this problem is to ask half your respondents if they agree that "X is good" and the other half if they agree that "X is bad." You could then reverse the answers given by the second group. This is extra work, but it may be worth it if it is important to get the most accurate percentage of people who really agree with something.
* People sometimes give answers they feel will reflect well on them. People give more honest answers when answering questions on a computer. Mail surveys are in-between.
* Because people like to think of themselves as normal or average, the range of answer choices you give when asking for a quantity or a frequency can affect the results.
* Leave your demographic questions (age, gender, income, education, etc.) until the end of the questionnaire. By then a rapport with the interviewee would have been built by good question design that will allow honest responses to such personal questions. Exceptions to this rule are any demographic questions that qualify someone to be included in the survey.
* Paper questionnaires requiring text answers, should always leave sufficient space for handwritten answers. Lines should be about half-an-inch (one cm.) apart. The number of lines depends on the question. Three to five lines are average.
* Leave a space at the end of a questionnaire entitled "Other Comments." Sometimes respondents offer casual remarks that are worth their weight in gold and cover some area you did not think of, but which respondents consider critical.
* Always consider the layout of your questionnaire. This is especially important on paper, computer direct and Internet surveys. You want to make it attractive, easy to understand and easy to complete. If you are creating a paper survey, you also want to make it easy for your data entry personnel.
* Try to keep your answer spaces in a straight line, either horizontally or vertically. A single answer choice on each line is best. Eye tracking studies show the best place to use for answer spaces is the right hand edge of the page.

**Additional Tips for Web Surveys**

* Web page surveys are still relatively new, and researchers are still learning what works best. One principle is to consider good Web page design when creating your survey pages.
* Do not use too many colors or fonts.
* Bolding, italicizing, and changing the colors of key words, used appropriately, makes questions easier to understand.
* Use color and/or a smaller font size to make instructions distinct from question text -makes questionnaire easier to follow.
* Always specify a background color, even if it is white (usually a good choice).
* Use graphics sparingly.
* Create or modify the graphic to a file size that is no bigger than you need.
* Use video only if that is what you are testing (e.g., a commercial).
* Make sure you do not require people to scroll horizontally to view part of the survey page. Question text wraps to fit the available space, but you can make a grid that is wider than some screens. As of January 2008, about 8% of people still use 800x600 screen resolution, so you may want to design your pages to be up to 760 pixels wide.
* Include an introduction or welcome page. Explain the reason for the survey. Put instructions at the point they are needed, instead of grouping them on the first page.
* Make sure your page and question layout are consistent.
* Allow space for long replies to comment type questions.
* Drop-down lists save space on the screen, but be careful using them.
* When you have finished creating the survey and have it up on your Web site, test it thoroughly. Make sure that all the pages look as you wish and that all skips, randomizations and other logic work as you intend.

**Pre-test the Questionnaire**

The last step in questionnaire design is to test a questionnaire with a small number of interviews before conducting your main interviews. This kind of test run can reveal unanticipated problems with question wording, instructions to skip questions, etc. It can help determine if the interviewees understand the questions and give useful answers.

**Advantages and Disadvantages of Questionnaires**

**Some advantages of questionnaires:**

The responses are gathered in a standardized way, so questionnaires are more objective, certainly more so than interviews.

* Generally it is relatively quick to collect information using a questionnaire. However in some situations they can take a long time not only to design but also to apply and analyze (see disadvantages for more information).
* Potentially information can be collected from a large portion of a group. This potential is not often realized, as returns from questionnaires are usually low. However return rates can be dramatically improved if the questionnaire is delivered and responded to in class time.

**Some disadvantages of questionnaires:**

Questionnaires, like many evaluation methods occur after the event, so participants may forget important issues.

* Questionnaires are standardized so it is not possible to explain any points in the questions that participants might misinterpret. This could be partially solved by piloting the questions on a small group of students or at least friends and colleagues. It is advisable to do this anyway.
* Open-ended questions can generate large amounts of data that can take a long time to process and analyze. One way of limiting this would be to limit the space available to students so their responses are concise or to sample the students and survey only a portion of them.
* Respondents may answer superficially especially if the questionnaire takes a long time to complete. The common mistake of asking too many questions should be avoided.
* Students may not be willing to answer the questions. They might not wish to reveal the information or they might think that they will not benefit from responding perhaps even be penalized by giving their real opinion. Students should be told why the information is being collected and how the results will be beneficial. They should be asked to reply honestly and told that if their response is negative this is just as useful as a more positive opinion. If possible the questionnaire should be anonymous.

References:

Creative Research Systems. (2010). *Survey design - how to begin your survey design project*. Retrieved October 4, 2010, from <http://www.surveysystem.com/sdesign.htm>

Milne, J. (n.d.). Questionnaires: Some advantagles and disadvantages. *Evaluation Cookbook*, 52. Retrieved from www.icbl.hw.ac.uk/ltdi/cookbook/info.../printable.pdf