Writing a Scientific Survey

Scientific surveys are a common method used by teams to collect data for a Mission Folder and can be an effective tool to gain information from a target audience. The information students gather from their survey should be able to help the team either prove or disprove their hypothesis.

On the surface, it seems a fairly simple task to write up a set of questions to collect information, but there are many pitfalls that should be avoided to develop a good survey questionnaire.

Tips for an Effective Survey

Here are 12 tips to help guide your students in writing successful survey questions:

1. **Remember the Survey's Purpose:** Every question asked should support the research objectives.

   a. **Research/Survey Objectives:** You should begin by stating your research and survey objectives.

   b. **Targeted Survey Population:** Identify the correct respondents for the survey. This will ensure that the target audience will give you information you need when answering the survey.

   c. **Survey Demographics:** Identify any demographic details, such as age, race or geographic location that may impact the hypothesis.

2. **When in Doubt, Throw it Out:** If you are not able to come up with a concrete research benefit that will result from the question, don't use it.

3. **Keep Questions Simple:** Break complex questions down into multiple questions that are shorter and easier to understand.

4. **Stay Specific:** Be specific and avoid vague issues.

5. **Include Only One Topic per Question (Avoid "Double-Barreled" Questions):** A double-barreled question is a question that asks about more than one issue in a single question. Try to break down compound questions into multiple simpler questions or statements.

6. **Avoid Leading Questions:** Leading questions can provide you with inaccurate information, as it causes prejudice or bias toward a specific answer.

7. **Ensure Respondent Has Sufficient Information:** It can be beneficial to break down questions that require background information into two parts; a screening item describing the situation that asks the respondent if he/she knows about it; and a follow-up question addressing the respondent's attitude about the topic.

8. **Look to Obtain Useful Answers With:**

   a. **Consistency:** Keep responses similar so that no single response stands out to the individual except the answer that is true for them.

   b. **Clear and Distinct Response Choices:** Always provide answer choices that match respondents' opinions or experiences.

   c. **Response Options Need to be Easily Distinguished as Different:** Response options should be mutually exclusive with only one legitimate place for the respondents to answer.

9. **Minimize Open-Ended Questions:** Open-ended questions, or essay questions, can result in respondent fatigue and may pose problems in terms of collecting, categorizing and analyzing data.

10. **Account for Different Perspectives:** Build in a time frame for completion to ensure that all respondents are answering in the same way. Avoid vague responses like "Regularly," "Sometimes" and "Often."

11. **Consider a "Don't Know" Response:** If you only want information from survey participants with an informed opinion or higher interest, offer a "Don't Know" choice.

12. **Provide a Meaningful Scale:** There are three things to remember when constructing a response scale:

    a. An odd number of points will provide a middle alternative or neutral position.

    b. An even number of points elicits slight preferences.

    c. A scale with a greater number of points draws out extreme opinions.

Once you have developed your survey questionnaire, let your Team Advisor review it, and if time permits, you should conduct a small test group (five to 10 people) to make sure that respondents clearly understand the questions they are asking and that they are capturing the information they need.

Well-written questions are important for a successful survey. Think carefully about the questions you write, guide them to look at reputable examples of questions and refer to the points above.

Try an activity [here](#)!