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EVIDENCE USE IN EDUCATION

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Creating Effective Surveys
Best Practices in Survey Design

Purpose

When education leaders utilize survey results to inform their decisions, they are often left wondering if the "right" survey questions were asked. To help state and local leaders improve existing instruments or create better instruments for data collection, this quick reference guide highlights best practices in designing effective surveys. Administering better surveys leads to more specific and accurate data, and better data leads to better evidence with which to inform decisions.

This guide focuses on four areas of survey development:

👍 general best practices in survey design,

👍 common problematic survey questions (and how to avoid them),

👍 Likert scales and rating scales, and

👍 creating more inclusive surveys.

Intended Use

This quick reference guide is designed to help state and local education leaders and staff who are asked to develop or modify surveys but may not have a background in survey design. This guide will help you gain a more critical lens when contributing to survey design and development or when reviewing survey results. If you'd like more details on survey design and other survey-related topics, please refer to the list of resources at the end of this guide.

General Best Practices in Survey Design

1. Define a clear, attainable goal for your survey

What are you trying to learn about from your survey? Start by crafting a goal before writing any questions.

Unclear, unattainable: "This survey will help us learn about everything parents are thinking about their child's math homework assignments."

Clear, attainable: "This survey is designed to understand parents' perceptions about the difficulty, frequency, and variety of their child's math homework last year. Responses will be used to shape the school's guidance to math teachers in the coming year."

2. Don't let your survey get too long

Long surveys lead to fatigued or annoyed respondents so they become less likely to provide truthful, detailed answers or, more importantly, finish the whole survey.

3. Keep it brief, simple, and specific

Keep your survey brief and focused specifically on the exact data you wish to analyze. Ask only the questions needed to achieve your survey goal, and ask them as clearly and simply as possible.

4. Save open-ended, challenging, and more personal questions for the end

Allow respondents to get comfortable with the survey by asking easier, more general, and less personal questions upfront. Asking open-ended, challenging, and personal questions right away might feel jarring or intrusive to a respondent.

5. Allow respondents to respond "not applicable (N/A)"

Whenever possible, include the option to indicate that a question does not apply to a respondent's experience. Otherwise, respondents might skip such questions, leaving you to wonder why.

6. Include a short introduction and a time estimate

Before asking respondents to answer questions, help them feel comfortable and able to accurately estimate their commitment by welcoming them to your survey and indicating a realistic amount of time in which to complete it.

7. Test or pilot your survey and survey platform beforehand

Ask colleagues to test your survey first and give you feedback on clarity, ease of responding, and so on. This applies to both online and paper-and-pencil surveys.

Common Types of Survey Questions

Closed-ended questions include multiple-choice, rating-scale (e.g., rate from 1-5), and checkbox (e.g., true/false) questions. These types of questions provide quantitative data and, generally, are easier for respondents to answer. Including more closed-ended questions than open-ended questions in your survey will reduce fatigue for respondents and increase the likelihood that they will complete it.

Open-ended questions ask respondents for feedback in their own words (i.e., free response) and can provide rich, qualitative data. Because open-ended questions can take much longer to answer and analyze, include fewer of them and place them at the end of the survey.

Common Problematic Survey Questions (and how to avoid them)

Poorly written survey questions will reduce the quality and quantity of responses. Here are some common types of problematic survey questions to avoid as you craft your data collection instrument:

Question Type	Defined	Example	Suggested Fix
Leading question	A question that signals, prompts, or encourages a certain answer	Were your friendly library staff members helpful as you engaged in summer-school teaching?	On a scale from 1 (completely unhelpful) to 5 (very helpful), rate the helpfulness of library staff members as you engaged in summer-school teaching.
Loaded question	A question that includes an unjustified assumption or forces respondents to agree with an assumption	How much will test scores improve because of your school's new reading program?	On a scale from 1 (decrease significantly) to 5 (increase significantly), how do you expect test scores to change because of the school's new reading program?

Question Type	Defined	Example	Suggested Fix
Double-barreled question	A question that asks for an opinion about two different items but allows for only one response	How do you think students' test scores and attendance will change because of the new after-school program?	Separate into two questions: 1. How do you expect test scores to change because of your school's new after-school program? 2. How do you expect attendance to change because of your school's new after-school program?
Double-barreled answer	An answer option that presents two possibly different opinions as a response to one question	What was your personal experience with mathematics in high school? Rate from 1 (did not like/did not succeed) to 5 (passionate about/excelled at).	What was your personal experience with mathematics in high school? Rate from 1 (negative) to 5 (positive).
Double-negative question	A question that contains two negative elements intended to create a positive element, which can confuse respondents	Is it not uncommon for teachers to coach a sport after school?	How common is it for teachers to coach a sport after school?

Likert Scales and Rating Scales

Closed-ended questions that incorporate a Likert scale or a rating scale are used frequently in surveys. When written well, such questions are generally less exhaustive for respondents to answer and are an excellent source of rich, quantitative data. Keep the following tips in mind as you craft your scale questions.

1. Generally, five rating choices are enough

Craft scales that yield only five possible answers (e.g., rate from 1 to 5, choose from five options). Provide more rating choices only if absolutely necessary to gather more detail.

2. Maintain balance and objectivity

Make sure that each scale provides ratings that are distributed to provide an equal number of choices with a positive or negative connotation.

3. Offer a neutral option

Include a neutral option to identify whether respondents feel neither positive nor negative about a topic. Allowing them to express indifference, rather than skipping the question or answering "not applicable," will give you a more accurate representation of their perception. The neutral option should be in the middle of the scale.

4. Don't forget to provide a "not applicable (N/A)" option

Enable respondents to opt out of responding by indicating that a question does not apply to their experience.

In the following example, the rating scale on the left is improved by changing the options to those on the right in order to ensure balance and objectivity and to provide a "not applicable" option.

Please rate the helpfulness of library staff members as you engaged in summer-school teaching.

Needs Improvement	Improved
1. Very helpful	1. Very helpful
2. Helpful	2. Helpful
3. Somewhat helpful	3. Neither helpful nor unhelpful
4. Neither helpful nor unhelpful	4. Unhelpful
5. Not helpful	5. Very unhelpful
	6. Not applicable

Using Scale Questions to Understand Change

Scale questions lend themselves well to understanding changes in opinions, perceptions, or knowledge when asked, as identically as possible, both before and after an event. A pre- and post-event survey can be completed either (1) in two phases, before and after an event, or (2) one time after the event. Individual or aggregated responses can then be compared to understand whether changes in opinions, perceptions, or knowledge have occurred.

Pre-event question: Please select the option that best describes your level of understanding of the topic(s) before you attended the webinar.

Post-event question: Please select the option that best describes your level of understanding of the topic(s) now that you have participated in the webinar.

Options: (a) none at all, (b) a little, (c) a moderate amount, (d) a lot, (e) a great deal

CHANGE IN UNDERSTANDING - HYPOTHETICAL EXAMPLE

Level of Understanding Before and After Attending Webinar

| 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% |
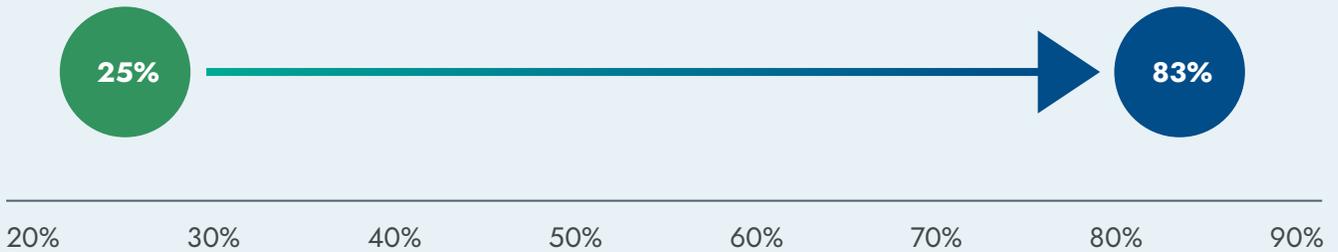
Before   After

Note: Percentages indicate the proportion of participants who reported they knew "a lot" or "a great deal" about the topics presented in the webinar before and after attending.

Creating More Inclusive Surveys

It is essential to consider the various identities and lived experiences of respondents. Ensure that all survey language is inclusive for all respondents. Otherwise, they might be less likely to provide honest answers or to complete your survey altogether. Consider the following suggestions as you design your survey questions.

1. Be thoughtful about demographic questions

Collect only the demographic information you need. When doing so, offer your respondents flexible and robust options for identifying themselves. For example, demographic questions on gender should include a spectrum of potential gender identities such as male, female, transgender, non-binary/non-conforming, and prefer not to respond.

2. Make survey questions mandatory only if a response is necessary

Unless a response is imperative to utilizing the data, do not make questions mandatory. Requiring an answer to every question can make respondents feel uncomfortable or unwilling to complete the entire survey if they would rather not respond to one or more questions.

3. Be mindful of language used in your survey

Consider the inclusivity of your language and how it might be perceived by all respondents. Think about relevant context, history, and the implications of how statements are phrased. Don't include language that ascribes or assumes a certain perception or viewpoint as something that should be "standard" or "normal" to your respondents, as it is possible that a different viewpoint might be the common understanding in their lived experience.

4. Consult resources on inclusivity and bias-free language

If you are unsure, the resources included at the end of this guide can help you check that the language of your survey is inclusive and bias-free.

References and Additional Resources

American Psychological Association. (2019). *Bias-free language.*
https://apastyle.apa.org/style-grammar-guidelines/bias-free-language

> This resource offers general guidelines on bias-free language and specific guidelines that address individual characteristics such as gender, racial and ethnic identity, sexual orientation, socioeconomic status, ability, and age.

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Internet, phone, mail, and mixed-mode surveys: The tailored design method* (4th ed.). Wiley.

> This text covers all aspects of survey research, including survey design strategies, guidance on obtaining high-quality feedback, and techniques to increase response rates.

Fisher, S. (2021, September 27). *How to create an effective survey.* Qualtrics. https://www.qualtrics.com/blog/10-tips-for-building-effective-surveys

> This introductory-level blog post is designed for audiences new to survey design and offers 15 practices for designing effective surveys.

Irwin, C. W., & Stafford, E. T. (2016). *Survey methods for educators: Collaborative survey development (part 1 of 3)* (REL 2016–163). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northeast & Islands. https://ies.ed.gov/ncee/edlabs/projects/project.asp?projectID=4482

> This guide outlines the crucial steps for educators and researchers to take when developing surveys for education contexts.

Krosnick, J. A., & Fabrigar, L. R. (1997). Designing rating scales for effective measurement in surveys. In L. Lyberg, P. Biemer, M. Collins, E. De Leeuw, C. Dippo, N. Schwarz, & D. Trewin (Eds.), *Survey measurement and process quality* (pp. 141–164). Wiley. https://doi.org/10.1002/9781118490013.ch6

> This text chapter provides an in-depth description of designing and understanding rating-scale response questions.

Matsumoto, A. (n.d.). *How to create more inclusive surveys.* SurveyMonkey. https://www.surveymonkey.com/curiosity/how-to-create-more-inclusive-surveys/

> This blog post outlines principles to follow in order to ensure surveys are inclusive.

Pew Research Center. (n.d.). *Writing survey questions.* https://www.pewresearch.org/methods/u-s-survey-research/questionnaire-design

> This article discusses common pitfalls and best practices when designing questionnaires.

Walston, J., Redford, J., & Bhatt, M. P. (2017). *Workshop on survey methods in education research: Facilitator's guide and resources* (REL 2017–214). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Midwest. https://ies.ed.gov/ncee/edlabs/projects/project.asp?projectID=4544

> This toolkit offers a facilitator guide and workshop handouts that can be used to help conduct trainings on survey methods.

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