Tools

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An educator's guide to questionnaire development

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Overview

Sound education policy and practice may require decisions based on new information collected on attitudes, perceptions, or facts in a school or community. This guide offers a five-step process to design effective questionnaires that follow research-based guidelines and can be used to survey students, teachers, or parents. It also lists resources on sample selection, questionnaire administration, and data collection, analysis, and presentation.

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Summary

To make sound decisions on policy and practice, education administrators may need to collect information on attitudes, perceptions, or facts in their school or community. If such information is not available elsewhere, educators can develop original questionnaires to survey students, teachers, or parents. But if the questions are not precise, the effort may result in inaccurate data and faulty decisions.

This guide takes users through a five-step questionnaire development process: determining the goal or goals of the questionnaire, defining the information needed to address each goal, writing the questions, reviewing the questionnaire for alignment with goals and adherence to research-based guidelines for writing questions, and organizing and formatting the questionnaire. It is designed for principals, superintendents, and other state, district, and school personnel who need to collect information on attitudes, perceptions, or facts to inform their decisions. It is not intended for creating questionnaires to measure student cognitive abilities, achievement, or personality traits.

Contents

Why this guide?

Education decisionmakers who need information on attitudes, perceptions, or facts in their school or community to make good decisions may need to develop original questionnaires to survey students, teachers, or parents. But if the questions are not precise, the effort may result in inaccurate data and faulty decisions.

This guide provides a five-step process that educators can follow to develop effective questionnaires. It is designed for educators who need to make a decision on an education policy or practice but lack the information needed to make that decision and do not already have a questionnaire that can be used to gather the information.

Writing questions may seem easy, but several pitfalls can result in the collection of inaccurate information (Burgess, 2001; Thorndike & Thorndike-Christ, 2010). To ensure that the time spent creating, administering, and tabulating data from a questionnaire leads to accurate and useful information, educators should follow research-based principles for creating questionnaires. The five-step process in this guide is based on the experience of the Wyoming Office of Public Instruction and the Nebraska Department of Education working with Regional Educational Laboratory Central on several survey projects (box 1) as well as recommendations from experts in the field of questionnaire design and writing (Babbie, 1990; Dillman, 2014; Fink, 2013; Phellas, Block, & Seale, 2012; Pope, Boleman, & Cummings, 2005). The five steps are:

To ensure that the time spent creating, administering, and tabulating data from a questionnaire leads to accurate and useful information, educators should follow research-based principles for creating questionnaires

1. Determine the goal or goals of the questionnaire.
2. Define the information needed to address each goal.
3. Write the questions.
4. Review the questionnaire for alignment with goals and adherence to research-based guidelines for writing questions.
5. Organize and format the questionnaire.

Box 1. Basis of the guide

This guide is based largely on work done in separate projects by Regional Educational Laboratory (REL) Central in collaboration with the Wyoming Office of Public Instruction and the Nebraska Department of Education. Both projects required building knowledge about effective questionnaire-writing practices with clients and then creating processes to ensure that those practices were incorporated by the clients.

REL Central assisted the Wyoming Office of Public Instruction in creating questionnaires to measure perceptions of education quality in the state. The questionnaires were administered to parents, teachers, and community business owners.

REL Central's Formative Assessment Research Alliance worked with the Nebraska Department of Education to create questionnaires to measure educators' use of a statewide formative assessment system called Check 4 Learning. With REL Central, Nebraska created three questionnaires that were administered to teachers, principals, and district-level assessment coordinators.

What kind of questionnaires can and cannot be created using this guide?

Questionnaire is defined here as a set of questions administered to individuals to gather useful information. This guide outlines steps to create questionnaires to measure attitudes, perceptions, or facts. It is not intended for creating questionnaires to measure achievement, cognitive abilities, or personality traits (table 1).

This guide was created to assist educators in gathering information when making lower stakes decisions. For example, the guide is appropriate for developing a questionnaire that gathers information from teachers on the frequency and type of their instruction practices, on their satisfaction with a new software program, or on the qualities that parents want in an afterschool program. It can be used to develop questionnaires that are administered either online or in hard copy.

This guide was created to assist educators in gathering information when making lower stakes decisions

In contrast, measuring achievement, cognitive abilities, and personality traits requires a more formal process than this guide offers. When those types of data are needed, education decisionmakers should seek existing data, investigate the availability of existing questionnaires, or hire an expert to develop the needed questionnaire or test.

This guide discusses how to write questions for questionnaires. It does not include information related to administering questionnaires or to the larger picture of gathering and analyzing data. Specifically, the guide does not provide information on sample selection, questionnaire administration (including gaining any approvals needed from an institutional review board or district research committee), and data collection, analysis, and presentation. Resources that provide such information are provided in table 2.

Step 1. Determine the goal or goals of the questionnaire

The first step in questionnaire development is to determine the research goals (Burgess, 2001; Pope et al., 2005). In other words, what do you want to learn from the questionnaire? For what purpose will the data gathered be used? Not clearly defining the goal or goals at the outset runs the risk of gathering incomplete, misleading, or nonessential data (Fink, 2013; Pope et al., 2005). It is easy to get caught up in wanting to know too many things, so identify only one or a few goals that are essential to making a decision (Fink, 2013).

Table 1. This guide is designed to support the development of questionnaires that measure attitudes, perceptions, and facts

Use this guide to create questionnaires to gather information on	Do not use this guide to create questionnaires to gather information on
Attitudes (such as teachers' opinions on the strengths of a new curriculum used in a school)	Achievement (such as a math or reading test) or student learning (such as an end-of-unit quiz)
Perceptions (such as perceived barriers to improved test scores in a school)	Cognitive abilities (such as processing abilities)
Facts (such as the type and duration of training each school's staff has attended within a district or the number of hours worked by staff outside of normal work hours)	Personality traits (such as level of aggression or sociability)

Source: Authors' compilation.

Table 2. References for sample selection, questionnaire administration, and data collection, analysis, and presentation

Topic	Resources
Questionnaire administration	Dillman (2014) Fink (2013) Thorndike & Thorndike-Christ (2010)
Data collection and analysis	Fink (2013) Groves et al. (2009)
Data presentation	Fink (2013)
Sample selection	Dillman (2014) Fink (2013) Groves et al. (2009)

Source: Authors' compilation.

Clearly defining the information needed ensures a connection between the goals and the questions

For example, a school principal may need to decide whether to continue a certain reading program or may want to know how much work teachers are doing outside of school. List the goals of the questionnaire and revise the list to ensure that the goals are not redundant or nonessential.

Step 2. Define the information needed to address each goal

The second step is to look at each goal and generate a list of information needed to address that goal (table 3). For example, if the goal is to understand staff perceptions of school discipline, step 2 could involve identifying information on the perceived effectiveness of current school policies, the consistency of rule enforcement, and so forth.

As part of this step, decide whether a questionnaire is actually the best method for gathering each piece of information. Are the data available elsewhere? For example, if an educator wants to know how many days of work teachers miss because of illness, it may be best to consult work records. However, if a principal wants to understand the perceived strengths of a new reading curriculum, a questionnaire would likely be needed.

Next, review the list to ensure that the items are clear, essential, not redundant, and capture all the information needed to address the goal. Clearly defining the information needed ensures a connection between the goals and the questions (Phellas et al., 2012). Developing a list, as in table 3, will lay out the entire scope and content of the questionnaire.

Step 3. Write the questions

Writing the questions involves three substeps: estimating how many questions to include, drafting the questions, and conducting an internal review.

Estimate how many questions to include

In deciding the number of questions (Burgess, 2001), consider the audience, their interest in the topic, and the amount of time required to complete the questionnaire. It may be necessary to cut some of the goals during this step. A questionnaire that is too long may fatigue respondents and decrease the accuracy of the data. However, if respondents are highly motivated to complete the questionnaire (for example, if they have a high interest

Table 3. Examples of questionnaire goals and corresponding information needed

Step 1: questionnaire goal	Step 2: information is needed on:
Understand staff perceptions of school discipline	• Perceived effectiveness of current school policies and procedures • Consistency of rule enforcement • Perceived effectiveness of consequences for misbehavior • Communication among staff regarding misbehavior
Design an afterschool program	• Activities identified by stakeholders as important • Availability of staff after school • Available locations • Transportation options for students
Identify perceived strengths of a new reading program	• Ease of use • Content of the reading passages • Quality of illustrations • Utility of the teacher's manual • Extent to which the program is scripted
Determine the amount of work done by staff outside of work hours	• Time that each staff member typically leaves school at the end of the day • Time staff members spend on work-related matters outside of school
Identify how teachers use a software program to create assessments	• Types of assessments that teachers create • Frequency of assessments that teachers administer using the software • Types of questions created with the software
Determine which schools use a schoolwide discipline model defined by the district	• Which components of the model are in place • How long each component has been in place • Frequency and types of professional development that the staff has received on the model • Benefits the school has achieved after using the model • Struggles or barriers the school has encountered using the model
Understand parents' perceptions of the benefits of a parent–teacher conference	• Whether the conference helps parents understand their child's academic performance, behavior performance, and social and emotional skills • Whether the conference helps parents learn about possible resources and extracurricular activities for their child • Whether the conference provides parents with extended time to meet with the teacher and an opportunity to see the classroom and learning environment

Source: Authors' compilation.

in its content or in how the data will be used), a longer questionnaire can be created. Incentives can encourage respondents to complete a relatively long questionnaire (Fink, 2013).

Completing a questionnaire is a cognitive burden for respondents because they are required to read the questions, think intently, and respond (Burgess, 2001; Fink, 2013). The higher the cognitive burden, the less likely respondents are to answer accurately or to complete the questionnaire. The easier the questionnaire, the more useful and accurate the results will be. To create an efficient questionnaire with a lower cognitive burden, consider a few guidelines:

- Avoid demanding or time-consuming questions, such as asking respondents to rank order 15 items or to read extensive text (Burgess, 2001).
- Define terms to reduce misinterpretation and the need for respondents to develop their own definitions (Dillman, 2014; Thorndike & Thorndike-Christ, 2010).
- Group questions on similar topics so respondents do not have to jump mentally among topics (Dillman, 2014).
- Provide checkboxes for responses instead of asking respondents to type or write responses. For example, ask respondents to check answers (for example: male, female) instead of writing the answer.

- Place instructions where they are needed, not just at the beginning of the questionnaire, so that respondents do not have to recall the directions (Dillman, 2014).
- For online questionnaires, avoid questions that require scrolling or switching screens (Dillman, 2014).

Draft the questions

In the first draft, focus primarily on writing questions that will elicit the needed information that was identified in step 2. More than one question may be needed to fully collect the information. For example, only one question is needed to find the number of hours per day a respondent typically works, but several questions are likely necessary to understand the strengths of a reading program. Guidelines to ensure clarity and avoid bias in questionnaires are provided in box 2.

Once the initial questions are created to cover the information needed, review the questions and select a format for each one—open-ended or closed-ended—taking into account

Box 2. Guidelines to ensure clarity and avoid bias in questionnaires

Questionnaire experts have created guidelines for how best to write and format questions (for example, see Check & Schutt, 2012; Thorndike & Thorndike-Christ, 2010). They agree that questions should be written clearly and have only one intended meaning to avoid confusing or misleading respondents (Check & Schutt, 2012; Dillman, 2014; Fink, 2013). Respondents should be encouraged to answer questions honestly and should not feel pressured to respond in a particular way (Pope et al., 2005). Careful consideration of the words used in the questions and the response choices can minimize bias.

Use simple language

In wording questions and responses, use simple language and avoid jargon. For example, use short words ("Use *brave* rather than *courageous, job concerns* rather than *work-related employment issues*"; Check & Schutt, 2012, p. 166). Spell out abbreviations and acronyms. Using shorter words and spelling out abbreviations reduce the cognitive burden on respondents because they will not have to read long questions, navigate complex words, or recall the meaning of an abbreviation (Check & Schutt, 2012; Fink, 2013).

Avoid double-barreled questions

Double-barreled questions ask two questions in one. For example, "Do you support spending on professional development and technology?" is double barreled because it asks about two separate things: professional development and technology. The question should be broken into two questions: Do you support spending on professional development? Do you support spending on technology?

Avoid loaded questions

A loaded question is based on an assumption about the respondent that may or may not be true. For example, the question "How often do you take supplies from work?" assumes that respondents take supplies from work, when in fact they may not. If a respondent who is asked "Did you leave work early today?" answers "no," it may suggest that he or she does leave work early, just not today.

(continued)

Box 2. Guidelines to ensure clarity and avoid bias in questionnaires *(continued)*

Avoid questions that elicit socially desirable responses

Researchers may need to ask about sensitive topics, such as diet, exercise habits, grading practices, or teaching philosophies. However, the wording of a question may lead respondents to answer with socially desirable, yet untrue, responses. For example, asking "Have you ever bullied someone?" is a direct question that respondents may not answer honestly to avoid being seen unfavorably. Instead, the question can be softened by replacing inflammatory words with less harsh language; for example, "Have you ever mistreated someone?" Questions about illegal behavior (for example, "Have you ever used a fake I.D.?" or "Have you ever been arrested?"), health habits (for example, "How often do you exercise?"), or biases (for example, "Do you believe any stereotypes?" or "Have you ever told a derogatory joke?") also may not be answered honestly. In such cases questions can be modified to ask about behavior instead of attitudes. For example, instead of asking "Do you appreciate diversity?", which may provoke many respondents to say "yes," ask more specific questions that inquire how often respondents interact with members of a different background or how often they attend programming on diversity-related issues.

Another way to reduce socially desirable but untrue responses is to ask respondents to use a rating scale to rate the extent to which they agree with something. For example, asking "Are you a good educator?" and allowing only a yes or no response will lead most people to answer yes (Thorndike & Thorndike-Christ, 2010). However, a question that reads "To what extent do you feel you are an effective educator?" and provides a rating scale (for example, 1 = strongly effective, 2 = somewhat effective, 3 = sometimes not effective, 4 = not effective) may produce more honest and accurate results (Check & Schutt, 2012; Fink, 2013; Thorndike & Thorndike-Christ, 2010).

It is usually preferable to use a range when asking about sensitive topics. For example, in a question about income, using a range of responses, such as less than $20,000, $20,001–$40,000, greater than $40,000, rather than asking for the respondent's actual income can increase the likelihood of an honest answer (Burgess, 2001; Fink, 2013).

Avoid leading questions

Avoid questions or response choices that lead people to respond in ways that may not accurately represent their views. Leading questions indicate that respondents should respond in a certain manner by weighting response categories toward one direction or using emotionally charged words (Burgess, 2001). For example, a question that reads "Don't you think teachers should be paid more?" and allows only a yes or no response choice suggests answering yes is expected. A better format is to ask respondents to rate their agreement with the statement "Teachers should be paid more" and provide a rating scale (such as: 1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, 5 = strongly disagree). Response choices can influence responses, as well. A question that reads "How would you rate the instruction in this class?" and provides answer options of "excellent, good, or satisfactory" is biased because no negative response options are offered. Finally, words that are emotionally charged, political, or exclude a certain culture or population can bias responses. For example, words such as lazy, freedom, or equality can influence respondents' choices and should be avoided (Burgess, 2001; Check & Schutt, 2012; Thorndike & Thorndike-Christ, 2010).

Other considerations

- Include directions for each type of question.
- Use positively worded questions; use negative language sparingly.

(continued)

Box 2. Guidelines to ensure clarity and avoid bias in questionnaires *(continued)*

- Clearly define all terms that could be misunderstood.
- Include an "Other" response when the response options may not include all possible responses.
- Provide anchor labels for each anchor, when applicable (an anchor is the possible response, such as "1" on a scale of 1 to 5; an anchor label is the value of that anchor, such as "2 = strongly disagree").
- Ensure rating scale questions have 4–7 anchor points.
- Ensure response choices are mutually exclusive and exhaustive, when applicable (for example, when asking for age, use "20–29, 30–39, …" instead of "20–30, 30–40, …").
- Eliminate or revise questions that may be culturally insensitive or offensive.

Source: Burgess, 2001; Check & Schutt, 2012; Dillman, 2014; Fink, 2013; Phellas et al., 2012; Pope et al., 2005; Thorndike & Thorndike-Christ, 2010

such factors as time, resources, and whether the information to be gathered is exploratory or whether responses of interest are known in advance (table 4). As questions are revised, their format may change. Some developers consider the question formats and wording as they write the questions, while others find it easier to focus first on the content of the questions, then the format, and then the wording.

Open-ended questions. Open-ended questions ask participants to write their own responses (Thorndike & Thorndike-Christ, 2010). For example, respondents write whatever response they choose to a question such as "What do you believe is a strength of the new reading program?"

Open-ended questions can be used to gather information without limiting responses and thus missing out on pertinent information. Closed-ended questions are useful when the needed information is not exploratory and the developer is interested in certain responses

Because open-ended questions allow respondents to use their own words, they are highly flexible (Fink, 2013). They are particularly useful for exploring attitudes, such as the staff's views on a new reading program or on a certain instruction practice. Open-ended questions can be used to gather information without limiting responses and thus missing out on pertinent information.

However, open-ended questions require more time for coding and analyzing the data than do closed-ended questions (Dillman, 2014; Fink, 2013). The analysis time can be considerable, particularly when responses are long. One method to shorten this time is to provide a word or character limit for responses, which is enforceable if the questionnaire is administered online (Fink, 2013).

Open-ended questions can be structured or unstructured (Fink, 2013; Kline, 2005). Structured open-ended questions ask for specific information (for example, describe one strength of a reading program). Unstructured open-ended questions encourage more in-depth responses (for example, explain how you implemented the reading program).

Closed-ended questions. Closed-ended questions provide limited response options (see table 4; Thorndike & Thorndike-Christ, 2010). They are useful when the needed information is not exploratory and the developer is interested in certain responses. For example, the open-ended question, "What do you believe are the strengths of the new reading program?" allows staff to offer a range of views and attitudes. A closed-ended question

Table 4. Questionnaire developers can use a variety of response formats for open-ended and closed-ended questions

Question type	Considerations for its use	Example
Open-ended		
	• When gathering information on exploratory topics (for example, a principal wants to determine why students are not attending afterschool programs and does not have a predetermined hypothesis). • When the range of anticipated responses is unknown. • When more elaborated responses are needed. • Takes longer for data analysis than closed-ended questions.	• What do you feel are some of the strengths of the new reading intervention program? Use the space below to write your response. • What is your favorite thing about teaching in this school and why? Use the space below to write your response.
Closed-ended		
Single response	• When time and resources are limited and efficiency is important. • Helpful for mutually exclusive categories, such as grade level or gender. • Helpful for identifying a primary choice. • May limit the information gathered if respondents want to provide more than one answer.	• Which of the following is the *primary* strength of the new reading program? Please mark only one. • The content of the stories • Integration of writing and spelling • Illustrations in stories • The number of reading components that the program covers • Layout of teacher's manual
Checklist	• When time and resources are limited and efficiency is important. • When collecting multiple responses to a question. • When categories are not mutually exclusive. • Does not provide information on differences or preferences among response choices.	• Which of the following are strengths of the new reading program? Please mark all that apply. • The content of the stories • Integration of writing and spelling • Illustrations in stories • The number of reading components that the program covers • Layout of teacher's manual
Ranking	• When time and resources are limited and efficiency is important. • When determining the relative importance of responses. • Requires more time to complete. • Higher cognitive demand may contribute to burnout or fatigue. • Requires that respondents are knowledgeable in the topic and capable of assigning rankings.	• Please rate the top 3 strengths of the new reading program. Place a "1" by your top choice, a "2" by your second choice, and a "3" by your third choice. ___ The content of the stories ___ Illustrations in stories ___ Layout of teacher's manual
Rating scale	• When time and resources are limited and efficiency is important. • A format familiar to many respondents. • Preferred for nondichotomous data (data with more than two values, such as agree, neutral, or disagree). • Requires careful consideration of wording, anchor points, and how to organize the data generated from responses.	On a scale from 1 to 5, please rate the extent to which each of the following features of the new reading program is a strength. Circle the number for your response. • The content of the stories: Not a strength 1 2 3 4 Strength 5

Source: Authors' compilation.

could be used if only certain, defined aspects of the reading program are considered strengths (such as "Do you believe the illustrations in the story are a strength?", "Do you believe the content of the stories is a strength?", or "Which of the following strengths do you find in the reading program?").

Closed-ended questions are popular because the data generated can be summarized and analyzed more efficiently than the data from open-ended questions (Fink, 2013; Kline, 2005). Closed-ended questions are often used when time and resources for analysis are limited (Kline, 2005). However, they may limit the richness and depth of responses and the possible answers respondents can offer (Dillman, 2014; Fink, 2013; Thorndike & Thorndike-Christ, 2010). To address this issue, an "other" response option may be provided so respondents can add items that do not appear among the options (Burgess, 2001).

In writing closed-ended questions, include the possible range of responses for that question plus one or more standard response options that make sense in the context of the question. Standard response options include "don't know" (which allows respondents to indicate that they are not sure how to answer and avoids forcing them into a response; Pope et al., 2005), "not applicable" (which allows respondents to indicate that the question is not relevant to them; Burgess, 2001; Fink, 2013), and "none of the above" or "none" (which allows respondents to indicate that none of the options is preferable; Fink, 2013; Pope et al., 2005). For example, respondents asked to indicate a strength of a reading program may choose "don't know" if they are unsure of its strengths, "not applicable" if they are not familiar with the program, or "none" if they do not agree with any of the strengths listed as options.

The data generated from closed-ended questions can be summarized and analyzed more efficiently than the data from open-ended questions, but they may limit the richness and depth of responses and the possible answers respondents can offer

Four main formats are used for closed-ended questions: single response, checklist, ranked response, and rating scale (Burgess, 2001; Fink, 2013; Thorndike & Thorndike-Christ, 2010; Whitcomb & Merrell, 2012).

Single-response. In this format the question provides a list of responses from which respondents select only one answer. For example, it can be used to ascertain what respondents identify as the primary strength of a reading program (see table 3). It is useful for mutually exclusive categories (such as "What is your job title in the school?") or when there are only a few response options (generally three to five). However, limiting the response options to one may reduce accuracy if respondents wish to mark more than one option. For example, if respondents view several facets of a reading program as strengths, forcing them to choose only one may misrepresent their view that there are multiple strengths (Fink, 2013; Thorndike & Thorndike-Christ, 2010).

Checklist. In this format the question provides a list of responses from which respondents can select multiple answers (Whitcomb & Merrell, 2012). Such questions generally should include directions to mark all that apply. In the previous example respondents could identify multiple strengths of the reading program by choosing from a list.

Ranked responses. In this format the question asks respondents to rank the provided options, which is beneficial when assessing the relative importance or preference of responses (Fink, 2013). For example, a school principal, who has identified three options to save funds might offer staff members a ranked-response question to indicate their relative preference for those options.

Rating scale. In this format the question uses a rating scale to measure agreement (for example, strongly disagree to strongly agree), importance (for example, not at all important to extremely important), frequency (for example, never to always), or satisfaction (for example, very dissatisfied to very satisfied). This format is useful when responses are not dichotomous (that is, either-or responses; Fink, 2013; Whitcomb & Merrell, 2012).

A Likert scale is a specific type of rating scale that is used to measure attitudes and uses symmetrical responses. For example, the responses "1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, 5 = strongly disagree" are symmetrical because they measure agreement and disagreement in the same manner with using "strongly" on both ends. In other words the response options are balanced and have an equal number of positive and negative responses. A nonsymmetrical response may be "1 = never, 2 = often, 3 = usually, and 4 = always" because responses 1 and 2 are not symmetrical options to responses 3 and 4 (Dillman, 2014; Fink, 2013).

A common question about rating scales is how many response options to provide (Fink, 2013). Four to seven response options are the most common because anything above seven choices can create a cognitive burden on the respondents and lead to less reliable results (Fink, 2013; Kaplan & Saccuzzo, 2013; Thorndike & Thorndike-Christ, 2010). The choice between an odd number and even number of responses depends on the goal of the questionnaire and is most relevant for Likert scale questions. An even number of choices will force respondents to select one side or the other (a type of forced-choice question; Thorndike & Thorndike-Christ, 2010). An odd number of response choices will allow respondents to select a neutral position (Fink, 2013; Thorndike & Thorndike-Christ, 2010). For example, if a question asking respondents to rate their agreement with using a reading program provides an odd number of choices (for example, 1 = strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree), respondents can choose to be neutral by selecting 3. However, providing an even number of choices (for example, 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree) forces respondents to either agree or disagree.

When using rating scales, four to seven response options are the most common because anything above seven choices can create a cognitive burden on the respondents and lead to less reliable results

Including a neutral answer or "don't know" option increases the risk of respondents marking those answers because it requires less thinking. However, if there is not a "don't know" option, respondents who cannot or do not want to answer a question may give a random answer or stop completing the questionnaire (Fink, 2013; Schwarz & Bohner, 2001). If some unusable data or incomplete questionnaires can be tolerated, a "don't know" option can be used. If not (for example, because every respondent's input is necessary for making a decision from the data), eliminating "don't know" options or using an even number of rating scale responses is preferred (Krosnick et al., 2002).

"Don't know" options are generally recommended for factual questions but not for attitudinal ones (Krosnick et al., 2002).

Conduct an internal review

Once a set of questions and their formats are determined, review the questions to ensure that each has only one interpretation and adheres to research-based guidelines for writing questions (see box 2). Because questionnaire writers may be too close to the subject matter and thus miss items that could confuse respondents, an outside review is desirable, as described in step 4.

Step 4. Review and revise the questionnaire for alignment with goals and adherence to research-based guidelines for writing questions

The draft questionnaire should be reviewed by people who are not involved in its creation to ensure that the questions align with the goals and information needed, follow research-based guidelines, and can be easily interpreted by respondents.

Review the questionnaire

Identify at least two people to review the questionnaire and provide feedback. Having more reviewers provides additional perspectives but can be difficult to manage. Questionnaire reviewers can be professionals with content expertise or people similar to the intended questionnaire respondents (for example, a teacher could review a questionnaire intended for teachers).

Provide reviewers with a list of the goals and information needed for each goal and ask them for feedback on how well each question addresses the goals and information needed (see worksheet 1 at the end of this guide). Analyzing the questions and their alignment to the goals and information needed helps determine whether the questionnaire gathers the desired data (Kaplan & Saccuzzo, 2013) and whether questions follow research-based guidelines (see worksheet 2 at the end of this guide). Checking the questions against the guidelines helps ensure that they measure what they are intended to measure (Fink, 2013).

Analyzing the questions and their alignment to the goals and information needed helps determine whether the questionnaire gathers the desired data and whether questions follow research-based guidelines

Also ask reviewers to note any other problems they identify in the questionnaire.

Revise the questionnaire based on reviewer comments

Read the review comments and make any necessary adjustments to the draft questionnaire. Reviewers may find that some questions collect unnecessary information or do not align with the goals of the study. Flag and revise any questions reviewers indicate did not follow research-based guidelines. If necessary, discuss the reviewers' comments with them to better understand their thinking.

Step 5. Organize and format the questionnaire

By step 5 the content of the questionnaire is ready and the focus shifts to organizing and formatting it to match the administration method (electronic or paper and pencil).

Determine the method of administration

Determine whether the questionnaire will be administered electronically or by paper and pencil (and if by paper and pencil, whether it will be mailed or administered in person). Both options have benefits and drawbacks. Online administration can be more convenient, but respondents need access to the necessary technology (Fink, 2013). Paper-and-pencil administration can be more expensive because of printing costs and the time involved in manual or scanned data entry but does not require much technology. Mailing questionnaires requires postage and up-to-date addresses, whereas administering the questionnaire in person requires supervising personnel (Burgess, 2001; Fink, 2013).

Verify rules for consent and permission

Check with school or district administrators for local policies related to informed consent, data collection, and maintenance of confidential information. The Protection of Human Subjects in Research Coordinator in the U.S. Department of Education's Office of the Chief Financial Officer offers a helpful website (http://www2.ed.gov/about/offices/list/ocfo/humansub.html). Questionnaires should tell respondents how the data collected will or can be used and should include assurances that identifying information will not be released publicly. Questionnaires may be coded with a unique number for each respondent that is matched with the respondent's name in a separate place or file that is locked or password protected (Fink, 2013). Familiarize yourself with what data are permissible and legal to gather in certain settings. For example, sensitive information such as income or health history is permissible to ask teachers directly, but district-level personnel likely need a teacher's signed consent before they can access information on income or health history.

Questionnaires should tell respondents how the data collected will or can be used and should include assurances that identifying information will not be released publicly

Format the questionnaire

The questionnaire format should be easy to follow and visually appealing. Considerations for organizing and formatting a questionnaire include (Fanning, 2005):

- ***Cover sheet.*** A cover sheet should clearly state the purpose of the questionnaire as well as the name and contact information of the administering organization in case respondents have questions.
- ***Informed consent.*** A paragraph or separate page should explain how the data will be used. Depending on local requirements, it can:
  - Ask for permission to collect data or state that completing the questionnaire grants permission for the data to be used.
  - Explain that participation is voluntary (when applicable).
  - State that the respondent can stop the questionnaire at any time without penalty or judgment.
  - Explain how the respondent's answers will be kept confidential and that identifying information will not be released publicly.
- ***Directions.*** Directions should be stated clearly for each group of questions. Respondents should not be burdened with following complex directions (Dillman, 2014).
- ***Back sheet.*** On the final page, a space for additional comments can be added.
- ***Question order.*** The order of questions should ensure that respondents are motivated to complete the questionnaire. To consider:
  - Place neutral, "friendlier" questions (for example, demographic questions) at the beginning to build rapport with the respondent (Dillman, 2014).
  - Place sensitive questions (about salary or employment, for example) in the middle.
  - Place shorter questions at the end where respondents' motivation and energy may be flagging (Burgess, 2001; Pope et al., 2005).
  - When possible, provide markers, such as a percentage of the total number of questions completed for each page (when electronic) or a note at the end of a page that says "you're halfway done!", to indicate progress through the questionnaire (Dillman, 2014; Fink, 2013).
- ***Layout.*** Font size, indentation, and appearance should be consistent (Fanning, 2005; Fink, 2013). To consider:
  - Organize questions so the questionnaire appears brief, easy-to-complete, and easy-to-read on paper or on a computer screen.

- Provide more white space between questions than within the response options of those questions (Burgess, 2001).
- Use contrasting colors to delineate different sections of the questionnaire (such as black on white: dark type for questions and lighter type for responses; Dillman, 2014).
- Avoid landscape orientation (as opposed to portrait orientation) because it is more difficult to read.
- Lay out the questionnaire with a symmetrical look and about the same number of questions per page (Phellas et al., 2012).

Worksheet 1. Do the questions address the goals and information needed?

Examine each question and determine whether each question addresses any of the questionnaire's goals or information needed.

Mark in the worksheet below any questions that do not appear to align with the goals of the questionnaire or information needed and any comments on why.

Question number	Goal	Comments

Additional comments or concerns with questions:

_____

_____

_____

_____

Worksheet 2. Do the questions follow research-based guidelines?

Review each question against the guidelines below. Indicate questions that do not follow a guideline and provide any relevant comments.

Guideline	Question numbers that do not follow the guideline	Comments
Question wording		
Uses simple, jargon-free vocabulary		
Uses standard, nontechnical language		
Includes appropriate directions for the question type		
Asks only one question (as opposed to a double-barreled question that asks two questions in one)		
Uses positive wording, with negatives used sparingly		
Clearly defines all terms that could be misunderstood		
Question responses		
Provides an “Other” response, if applicable		
Provides labels for each anchor (an anchor is the possible response, such as “1” on a scale of 1 to 5; an anchor label is the value of that anchor, such as “2 = strongly disagree”)		
Provides four to seven response options (when asking for a rating)		
Provides mutually exclusive response choices		
Provides exhaustive response choices		
Minimizing bias		
Avoids culturally insensitive or offensive language		
Avoids biased or emotionally charged words		
Avoids assumptions about the respondent (loaded question)		
Avoids soliciting a socially desirable answer		
Provides ranges for response choices (when question is potentially sensitive)		

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