

# Surveys from Start to Finish

Evaluation & Research

## Info-line

The *How-To* Reference Tool for Training & Performance Professionals



Association for  
Training & Performance Development



# Surveys from Start to Finish

**AUTHOR :**

Lori Long

## Evaluation & Research

<b>Surveys from Start to Finish</b> .....	1
Face-to-Face Interviews .....	2
Telephone Interviews .....	5
Written Questionnaires .....	7
<i>Electronic Surveys</i> .....	10
<b>Administering Surveys</b> .....	11
Sampling .....	11
Questions .....	13
Pretesting .....	14
Tabulating and Analyzing Results .....	15
Ethics .....	15
<b>References &amp; Resources</b> .....	16
<b>Job Aid</b> .....	17

**Editorial staff for 8612**

**Editor**

Gerry Spruell

**ASTD Internal Consultant**

Eileen West

**Revised 1998**

**Editor**

Cat Sharpe

**Contributing Editor**

Ann Bruen

**ASTD Internal Consultant**

Michael Czarnowsky

**Reprinted 2000**



1640 King Street  
Box 1443  
Alexandria, VA 22313-2043  
PH 703.683.8100, FX 703.683.8103  
www.astd.org

*Info-line* is a series of "how-to" reference tools; each issue is a concisely written, practical guidebook that provides in-depth coverage of a single topic vital to training and HRD job per-

formance. *Info-line* is available by subscription and single copy purchase.

Printed in the United States of America.

# Surveys from Start to Finish

How comfortable is your corporate climate? How effective is your technical training? What kind of courses, if any, do supervisors need to advance your company's customer service aims?

When you want the inside story from employees on a particular corporate question, a survey may be the answer. It brings out opinions, insights, and facts about a current situation by questioning the people involved. Whether conducted in person, sent through the mail, or conducted over the phone, a survey can provide valuable information about training and performance needs and results. But a survey can provide accurate data only if it is conducted correctly.

Once you thoroughly understand the information needs of your client, you must determine on a case-by-case basis whether a survey will efficiently meet those needs. Perhaps information already available would suffice. When you feel confident that a survey is suitable, you must then determine the type of survey to conduct, the size and nature of the group of people to survey, the type of questions to ask, and the appropriate means for tabulating and analyzing the answers. And in doing all of this, you must follow proper survey ethics. These include some of the following:

- You may not betray confidences.
- You may not twist the truth.
- You may not play with numbers or statements to make survey analyses easier on the brain or the ear.

Following proper survey ethics is easier said than done, as are all of the other tasks of surveying.

This issue of *Info-line* will help you determine when to conduct a survey, what type of survey to use, whom to survey, what to ask, and how to get the information you need. For background and additional information, see the following *Info-lines*: No. 8502, "Be a Better Needs Analyst"; No. 9808, "Task Analysis"; No. 8907, "Testing for Learning Outcomes"; No. 9008, "How to Collect Data"; and No. 9101, "Statistics for HRD Practice."

## Types of Surveys

Surveys vary greatly in amount of time and money required and in complexity. Choose the type of survey that will best provide the data you need—not necessarily the one that is fastest, cheapest, and easiest to do. Another factor to consider is that you may need to use more than one type of survey to obtain different kinds of data about the same topic.

Some of the considerations for determining what survey type(s) to use are as follows:

- What kind of issue do you need to resolve?
- How many people must you survey?
- What is the sensitivity of the questions you must ask?
- How much time and money are available to collect and analyze data?
- What amount of time will respondents be willing to invest in supplying the data?
- How easily can you access the prospective respondents?

Three popular types of surveys are the face-to-face interview, the telephone interview, and the written questionnaire. Electronic surveys are a fourth option for gathering information—a modern delivery mechanism for written questionnaires. Guidelines for when to use each of these survey types, plus their advantages and disadvantages, are discussed on the following pages.

## Pre-Survey Checklist

Before you mail a list of questions, dial a number, or knock on a door, you must be sure of one thing: Should you be doing a survey in the first place? The following questions will help you determine whether, with the task at hand, a survey is necessary, appropriate, affordable, and feasible:

### **What data are needed?**

Are these data available elsewhere? Did you check with colleagues, various company departments, libraries, and other sources to ensure that the data you need have not already been collected?

### **How strong is the need for data?**

Is the need strong enough and is the information topic important enough to justify the time and effort involved in a survey?

### **Who will sponsor the survey?**

Will respondents willingly answer a request from this sponsor? Will respondents be intimidated and answer untruthfully?

### **How will the data be used?**

Is your client's goal in collecting information to gain insights? Get ideas? Support decisions? Are information needs too varied for one survey? Are there methods more effective than surveying, considering the intended use of the collected data?

### **Who will respond?**

Does the respondent group you plan to use have the knowledge to answer accurately? Are these respondents a reliable source of information? Are they willing to invest the time and effort required by a survey?

### **When are the data needed?**

Did you ask several potential respondents the best time to be surveyed (season, month, day), based on their work load? Does this time coincide with your deadline?

### **How will the data be analyzed?**

Do you have the means necessary for appropriate analysis? For example, if statistical analysis is required, do you have access to a computer and the proper software, or do you have the time necessary to tabulate results manually? If you wish to ask respondents to brainstorm ideas, can you take the great amount of time necessary to summarize the results?

### **Is enough money available to perform a survey?**

What are the estimated time and dollar costs for each phase of the survey (researching, preparing, pretesting, conducting, tabulating, analyzing)? If you cannot meet these costs, can you narrow the scope of your proposed survey or take shortcuts without sacrificing quality of data? Or would you wind up with a "quick and dirty" survey yielding dubious results?

## Face-to-Face Interviews

Use this type of survey to explore complex questions that require explanatory answers. Following are some examples of when to use face-to-face interviews:

- when part of a needs analysis—surveying managers about whether training is needed, and if so, why, what kind, and for whom
- when asking highly sensitive questions
- when all possible responses to an issue cannot be anticipated
- when respondents are experts in the field or are in upper management
- when survey time and dollars are plentiful (but only if exploratory or sensitive questions are necessary)

If survey time and dollars are tight, consider combining two survey types: Conduct face-to-face interviews, asking open-ended questions of a small portion of the survey sample; also use telephone interviews or written questionnaires with forced-choice questions for the entire survey sample.

Following are the advantages and disadvantages of face-to-face interviews:

### **Advantages**

- Interviewers can clarify questions respondents do not understand.
- Interviewers can ask spontaneous questions based on new thought paths respondents pursue.
- Interviewers can gain insights and get ideas from respondents.
- Interviewers can pick up nonverbal cues. A respondent's body language is a strong indicator of personal comfort or uneasiness with a question, affecting the accuracy of the response.
- Interviewers can change the tone and style of the questions to match individual conversation styles of respondents.

### Disadvantages

- Respondents may get distracted as the interviewer takes notes.
- Respondents may doubt that their answers will remain confidential and, therefore, not answer truthfully.
- Interviewer training may be necessary.
- Face-to-face interviews are the most expensive type of survey, and they are extremely time consuming because they survey many people.

### Tips for Face-to-Face Interviews

Before the face-to-face interview, call or write the respondent to request an interview appointment. During the call, introduce yourself—include your job title and a little bit about what you do. Explain the reason for the interview request. Name the sponsor of the survey and explain the purpose and the scope of the survey. Describe the nature and size of the sample. Tell the person how much time you expect the interview to take. Make the appointment for a time and place convenient to the respondent. Ask to be alone with the respondent; interruptions and the presence of others can influence responses.

### Preparation

Make up a detailed outline of interview questions, using the following guidelines:

1. Write one or two simple and interesting *yes/no* questions for the start of the interview in order to put the respondent at ease and gain interest; make the rest of the questions open ended. (Remember, you should not be doing a face-to-face survey if your purpose is to get brief answers to structured questions.)
2. Write a few different versions of key questions so you can ask them more than once (without irritating the respondent); this will ensure that you get full answers. Space out different versions of the same question.
3. Cluster questions on like topics together.
4. Sequence questions from general to specific.
5. Alternate tough and easy questions to give respondents necessary breaks from thinking so hard.
6. Do not put sensitive questions at the beginning of the interview. They are better asked after the respondent answers other questions and feels comfortable with you.
7. Do not put important questions at the end of the interview. The respondent may become tired and may answer inaccurately; or the respondent may terminate the interview due to lack of time before you ask an important question.
8. Put demographics questions at the end. They are easy to answer, and they flag the interview's finish.

### Face-to-Face Interview Outline

The following survey questions might be asked of sales managers as part of a needs analysis designed to find out why sales are dropping:

1. Do you have more than five salespeople on staff?
2. Are most of them experienced or fairly new to sales?
3. How experienced is your top performer?
4. Do you think the company offers enough formal training to supplement the coaching you give your staff?
5. What skills could your salespeople strengthen?
6. What knowledge areas could they strengthen?
7. Would your salespeople benefit more from attending training programs or from being coached by you after you have attended programs? Why?
8. What more can the company do about training?
9. Do you think you could use more management training? Why or why not?
10. How long have you been in sales?
11. Do you have other ideas on training or further comments?

Practice asking the questions. Make sure you are pronouncing words correctly and enunciating clearly. Explain each question to respondents who do not understand the question the first time they are asked. Learn everything you can about the respondent. This knowledge will help you answer any questions the respondent has and will help you gain respondent cooperation and confidence. Try to find out information such as age, job, number of years with company, number of years in professional field, and the jargon of the respondent's professional field (in case the respondent uses it; you, however, should avoid all jargon).

When leaving for the interview, take along any sources of information, such as reports or published data, that pertain to your questions. The respondent may not have the materials on hand or may have never seen them. Get to the interview a little early.

### Beginning the Interview

Put the respondent at ease by initiating everyday conversation. Try to pick up signals from the respondent as to how much small talk is appropriate. This can create a smooth transition to the questions. After the small talk, state your job title and what you do; the sponsor of the survey; the purpose of the survey; and the size and nature of the sample.

Before questioning begins, determine how you will record the answers. If you want to tape answers, ask the respondent for permission. Even if permission is granted, do not use a tape recorder if the respondent seems uncomfortable; his or her uneasiness will affect the responses. If you take notes, do so accurately and immediately after each response, even if you must periodically ask the respondent for a few moments to write or type notes on particularly important and lengthy answers.

### During the Interview

Use the same friendly, conversational tone of voice with every respondent and avoid implying the answer you expect; you must sound neutral, as though all answers are equal. Here are some guidelines to use when conducting the interview:

- Make sure your body language communicates self-confidence and interest in the respondent's thoughts.
- Observe the respondent's body language. Blushing, hesitation, quizzical expressions, and nervous mannerisms can mean you should change the way you are conducting the survey.
- Keep your line of questioning flexible. Spontaneously follow the respondent's line of thinking if it digresses from your interview outline, so long as you think the new thought path can provide meaningful data. Then get the interview back on track; interject a smooth transition to your next question.
- Keep your comments to a minimum; telling the respondent your opinion could color subsequent responses.
- Listen with a questioning mind to responses. Jot down additional questions as you think of them.
- If you do not understand an answer, ask the respondent to clarify. If your mind happens to wander, ask the respondent to repeat what was said.
- Tactfully ask the respondents to qualify answers that sound like exaggerations or sweeping generalizations.

Remember that the respondents are the subject matter experts (SMEs). Do not make them feel as though you are testing them, and do not argue with them about answers. Admit any errors you make. If you find the interview lasting longer than you said it would, ask the respondent if he or she would mind answering a few more questions. If the respondent is agreeable, ask *only* a few more. If necessary, request an additional interview and set a date.

## Closing the Interview

Ease the interview to a conclusion. Once you finish asking questions, invite the respondent to make comments or ask questions. Thank the respondent for his or her time and thoughts. After the interview, review any notes you took and fill in impressions you did not have time to write down during the interview.

## Telephone Interviews

Use this type of survey to gather nonsensitive *yes/no* or range of *like/dislike* answers to specific, tightly focused questions. Following are some examples of when to use a telephone interview:

- when part of a training evaluation—surveying people who have completed a program as to how transferable the training was to their job
- when gathering strictly numerical data (usually requires two calls, one to state the need and another to get the numbers)
- when most or all possible responses to an issue can be anticipated
- when time available for the survey is tight and exploratory or sensitive questions are not essential

If exploratory or sensitive questions are essential, consider combining two survey types: Phone the survey sample and ask forced-choice questions; also conduct face-to-face interviews, asking open-ended questions of a small portion of the sample.

Following are the advantages and disadvantages of telephone interviews:

### Advantages

- Interviewers can clarify questions respondents do not understand.
- Respondents generally are more relaxed when speaking with a stranger by telephone than when speaking face to face. And the more relaxed respondents are, the more truthful their answers tend to be.

- Interviewers can read questions from a script and take notes without concern about distracting respondents.
- Respondents cannot read the interviewer's body language. The interviewer need only concentrate on his or her voice, without concern for nervous mannerisms.
- Telephone interviews are the fastest way to collect information and the least expensive type of survey.

### Disadvantages

- Respondents often feel that a telephone survey is an invasion of their professional or personal life.
- Interviewers have little opportunity to “loosen up” the respondent; small talk does not work well by telephone.
- Interviewers cannot read respondents' body language to determine if they are anxious about answering any questions.
- The scope of the survey is limited because respondents tire quickly during telephone interviews, and the interviewer does not have the opportunity to draw out thoughtful, insightful responses.
- Interviewer training may be necessary.



## Tips for Telephone Interviews

Before the telephone interview, plan and practice your questions, create a checklist for recording data, and devise a means for tracking respondents.

### Preparation

Make up a list of simple, straightforward, forced-choice questions—true/false, yes/no, multiple choice—or direct questions that can be answered with one or two words. Use the following guidelines:

1. Exclude sensitive questions or ones that require explanatory answers. (If you need that kind of information, you should be using face-to-face interviews.)
2. Order the questions logically, one leading smoothly to the next.

3. Put the easiest-to-answer, qualifying questions first. Qualifiers confirm that the respondent fits your needs; the simplicity of these questions puts the respondent at ease.
4. Put a particularly interesting, though simple, question at the beginning to gain the respondent's interest.
5. Do not save important questions for the end of the interview. The respondent may become tired and may answer inaccurately, or terminate the interview early due to lack of time.

Practice asking the questions. Make sure you are pronouncing words correctly and enunciating clearly. Make up a simple checklist answer form to complete as you ask the questions. Prepare this even if you would rather tape-record responses, because to do so you need the respondent's permission and you may not get it. (Remember that if you tape-record, you must replay the tape and go through the whole interview again to tabulate the data.) Create a log for numbers called, respondents reached, busy signals received, and messages taken so you have a record of whom you contacted and whom you need to try again.

## Telephone Interview Questions

The following questions might be asked of post-program participants as part of a training evaluation:

1. Are you still doing secretarial work, as you were during the word processor training you participated in last month? (Yes/no) If "no," terminate the interview; if "yes," continue.
2. How often do you use your word processor: every day, a few days a week, or less than once a week?
3. How would you rate your word processor training: very helpful, adequate, or not helpful?
4. How would you rate the job aids you took back to work: very helpful, adequate, or not helpful?
5. How often do you use the job aids: every day, a few days a week, or less than once a week?
6. Do you think you could have learned just as much about your word processor from reading a manual? (Yes/no)
7. Those are all the questions I have. Do you have any questions or comments?

### Beginning the Interview

When the respondent answers the phone, state your name and give a short introduction of the sponsor, purpose, and scope of the survey. Ask if the respondent has time to answer a few questions. Mention how much time you expect the survey to take (set your maximum time at 10 minutes).

Speak clearly, but mention all the above elements without a silence long enough for the respondent to break in. If the respondent is busy, set a time to call back. If you would like to tape-record the interview, ask the respondent for permission; it is illegal to tape a phone conversation without informing the respondent.



## During the Interview

Use the same upbeat, friendly, conversational tone of voice with every respondent. Avoid implying the answer you expect; you must sound neutral, as though all answers are equal. Following are some guidelines to use when conducting the interview:

- Do not talk too fast. Pronounce words correctly and enunciate clearly.
- Listen for commotion on the respondent's end of the line; if you hear distractions, set up an appointment to call back.
- Stick to the prepared questions. Do not let respondents ramble; get the interview back on track by tactfully interjecting your next question.
- If you find the interview lasting longer than you said it would, ask the respondent if he or she would mind answering a few more questions. If the respondent is agreeable, ask *only* a few more.

## Closing the Interview

Once you finish asking questions, invite the respondent to make comments or ask questions. Thank the respondent for his or her time and information. Enter the call on your log.

## Written Questionnaires

Use this type of survey to gather broad, quantifiable nonsensitive data. Some examples of when to use a written questionnaire are as follows:

- when part of an organizational assessment—determining employee opinions about professional development opportunities (keeping respondents anonymous if some of the data is sensitive)
- when surveying a large or geographically dispersed population

- when all possible responses to an issue can be anticipated
- when dollars available for the survey are tight, and exploratory or sensitive questions are not essential

If exploratory or sensitive questions are essential, consider combining two survey types: Send written questionnaires with forced-choice questions to the survey sample; also conduct face-to-face interviews, asking open-ended questions of a small portion of the sample.

Following are the advantages and disadvantages of written questionnaires:

### Advantages

- Respondents may answer quite accurately due to the tension-free nature of questionnaires sent through the mail. Questions can be answered at the respondents' convenience and personal pace, without probing by an interviewer.
- Since all respondents receive the exact same questions in printed form, answers are not susceptible to the biases that can slip into personal interviews—for instance, when questions are posed with different wordings to different respondents.
- Filling out questionnaires is simple, which advances the response rate and the number of accurate responses.
- Written questionnaires are usually the least expensive type of survey as well as the easiest to administer; tabulating and analyzing results also are easy.
- More people can be reached with written questionnaires than with any other type of survey.

### Disadvantages

- Respondents may not understand or may misinterpret questionnaire instructions or the questions themselves. If the questionnaire comes through the mail, there is no facilitator to clarify questions. As a result, respondents may answer some questions inaccurately, or they may not answer them at all.
- Respondents often are irritated by “another dumb survey,” so response rate or accuracy may be poor.
- Some respondents may not feel comfortable with the impersonal nature of the questionnaire; they may deem the survey sponsor “cold” and may not respond, or respond untruthfully.
- Results may be misleading, because only those respondents particularly interested in the topic or outcome may respond.
- Results also may be misleading because people not in the target sampling may respond. They may complete questionnaires mailed to people no longer employed at the firm or to residential occupants who have moved. Even when a questionnaire reaches the right person, that person may ask someone else, perhaps a subordinate, to fill it out.
- The scope of the survey is limited. Respondents can offer no insights by answering the structured questions of the written questionnaire, and respondents can offer no explanations with questions they feel forced to answer only somewhat accurately.

### Tips for Written Questionnaires

When preparing a questionnaire to mail, choose an appropriate format; decide question topic groups and question structures. (Stay flexible; revise the format as needed once you begin writing questions.)

### Preparation

Develop short, straightforward questions with various forced-choice structures—true/false, yes/no, multiple choice, ranking. Follow these guidelines when making up questions:

1. Vary question structure to promote accuracy of responses; respondents will read more carefully.
2. Write as few questions as possible to gather the data you need; this will encourage respondents to finish. But do write some extremely easy questions to scatter throughout the questionnaire; these will give respondents necessary breaks from hard thinking.
3. Order the questions within a topic group logically, one leading smoothly to the next. (Do not forget to alternate tough and easy questions.) Order the topic groups logically.
4. Put a few extremely easy and particularly interesting questions at the beginning to gain respondent interest.
5. Do not save the most important questions for the end of the survey; respondents may quit answering before they get to the last questions.
6. Put demographics questions at the end.
7. As the final question, ask for comments. Leave an appropriate amount of space for these comments or you will irritate respondents.

After developing questions, conclude your preparation steps by doing the following:

- Write clear and simple instructions for completing and returning the questionnaire; put instructions at the top of the questionnaire.
- Write a cover letter to introduce yourself—include your job title and a little bit about what you do. Explain the reason for the survey, identifying the sponsor of the survey, the purpose and scope of the survey, and the size and nature of the sample.
- Specify the date by which you would like the completed questionnaire returned; also state the return address and mention an enclosed postage-paid envelope.

- Encourage the respondent to return the completed questionnaire soon. Mention the importance of the survey information, and thank the respondent for contributing to the survey.
- Have the questionnaire and cover letter produced with the most sophisticated methods you can afford, either typed and copied or typeset and printed. Use high-quality paper.
- Have two types of envelopes printed: (1) *response envelopes*—self-addressed envelopes with postage-paid indicia for return of questionnaires (this boosts the response rate); and (2) *package envelopes*—envelopes with your company's return address and indicia for mailing the questionnaire, cover letter, and response envelope.
- Order respondent address labels, and arrange for questionnaire package labeling, stuffing, and mailing.

### Follow-up

Unless respondents are to remain anonymous, keep track of whom you send questionnaires to and who responds. Send follow-up letters to remind and encourage people who did not respond to do so. Include another questionnaire and another response envelope.

### On-site Completion

When preparing a questionnaire to hand out to a group for completion on the spot, follow all the tips for preparing a questionnaire to mail, with a few changes. Turn the cover letter into a memo requesting attendance at a particular site and on a particular day to complete the questionnaire, and mention how much time the survey will take. Mail only the memo. For continuity, prepare a short introduction from the information on the memo to present before the respondent group begins the survey. There is no need in this case for response envelopes; respondents can simply drop completed questionnaires in a box at the door as they leave the room.

## Written Questionnaire Questions

The following questions might be the start of a written questionnaire used in an organizational assessment:

1. How interested are you in advancing at this company?
  - very interested
  - somewhat interested
  - not at all interested
2. How far would you like to advance?
  - chief executive officer
  - upper management
  - middle management
  - happy where I am
3. How would you describe the professional development opportunities at this company?
  - nonexistent
  - scarce
  - numerous
  - abundant
4. I have taken advantage of professional development opportunities offered.
  - true       false

## Electronic Surveys

The increase in the use of e-mail and the Internet/intranets has opened new options for gathering information with written questionnaires. Software is currently available to post surveys on your World Wide Web page or on your corporate intranet for respondents to complete. The survey can be completed online and often submitted directly to a database, thereby significantly reducing or even eliminating data entry. The results of the survey can be updated automatically after respondents complete the questionnaire, providing them with immediate feedback on how their responses compare with those of others who have completed the questionnaire. Software is also available to distribute questionnaires via e-mail. Respondents can then return their responses via e-mail either to a data entry person or directly to a database.

### Advantages of Electronic Surveys

The most notable advantage of electronic surveys over mailing or faxing questionnaires is a very quick turnaround of responses. You often can get responses in a few hours. Also, after the initial investment of dollars to purchase the software and training time to learn the software, the cost of distribution and analysis of the survey is minimal. There is no postage and in many cases few if any data entry requirements, since the software often captures the responses for you. Many software packages also provide rudimentary data analysis components giving you virtually instant tabulations and graphs of your data.

### Disadvantages of Electronic Surveys

There are, however, some serious disadvantages to using such software. First and foremost, many of the people in your target population may not have access to computers, e-mail, or the Web. Or, you may not have e-mail addresses for all members of the population. If you decide to include in your sample only those people who have access and for whom you have an e-mail address, you will likely get a rather biased sample. Second, there may be a significant investment of time and money necessary to procure the appropriate software and learn how to use it. If you do not have adequate start-up funds or have little time to launch the survey, the electronic version may not be the best choice.

### Questions to Consider

When contemplating using e-mail or the Internet/intranet to distribute a questionnaire, ask the following questions:

- Is the population computer literate enough to complete the questionnaire?
- Which sections of the population will you be missing if you use this method? (Who does not have access to computers or the Web?)
- Will this method of surveying intimidate or scare some people away?
- Will this method of surveying bias any of the responses?
- How much money can you invest in software? (Software can run from less than \$100 to several thousand dollars, depending upon your needs and specifications.)
- Do you have the time and interest necessary to learn a new piece of software? Does your organization already have the expertise to help you?
- If sending by e-mail, do you have e-mail addresses for the sample?
- If sending by e-mail, are the respondents' e-mail servers able to handle the format for the software you have selected? (This is expected to become less of a problem as time goes on.)
- If posting the questionnaire on the Internet or a corporate intranet, how will you get people to come to the page to complete the survey?

## Administering Surveys

A number of areas of concern are associated with the administration of surveys. They include sampling techniques, the types of questions to ask, pretesting, tabulating and analyzing results, and ethical behavior.

### Sampling

Should you survey every employee about the corporate culture, or just a few people at each level? Should you request feedback on recent automation training just from learners or from their supervisors, too? It would be nice if you could always survey everybody who could provide information on your topic—the whole survey *population*. Population size and survey deadlines and dollars often make that ideal impossible, however. Many times you can survey only some of the potential respondents—a *sample*.

#### ■ **Criteria for Sample**

First, the sample must be a *cross section* of the population, with all the characteristics of the population represented. For instance, with a corporate culture survey, every employee of the company is a member of the survey population; but if your company is large, you may be able to survey only a sample. To ensure that all characteristics of the population are represented in your sample, include some employees at every level. In a training evaluation survey, the population generally consists of the learners and the people directly affected by the learners' work—supervisors and subordinates. Representatives of all these groups must be included in your sample. Remember, in order to survey a cross section of the population, you may have to use different versions or different types of surveys with different groups of people in the sample. For example, the survey you devise to question support personnel about corporate culture may not be appropriate for managers. Second, the sample must be large enough to be *reliable*—that is, the odds of having a question answered a certain way are statistically equal.

- How will you track to ensure that each person is responding only one time?
- How will you ensure that only the people you want included in your sample respond to the survey?
- How will you screen out responses from people who just happened to find your page?

### Software Considerations

Software is available from a wide variety of companies, too varied and too frequently changing to list here. Search the Web for the most currently available software. Most established vendors will have a Web site and often will have a demo version or trial version that you can download directly from their site. Determine which software is compatible with the computer system you have available. Many currently available software products include a library of questions to help you design your questionnaires, but some may not be able to handle certain types of questions, such as ranking or open-ended questions. Consider how you plan to analyze the data collected. If the software does not include a data analysis component, check to see if it saves the data in a format that you can import into the software you plan to use for analysis. Check out a few different software products to determine which is right for you, and check whether the company offers a money-back guarantee if the software does not meet your needs.

To ensure that your sample meets these criteria, investigate the population to determine how large it is and the *primary* and *secondary* traits of its members. A primary trait is one the whole population has in common. The secondary trait is one that some, but not all, members of the population have in common. For example, when studying opinions about whether automation training was transferable to the job, your population consists of the employees trained and their supervisors. The primary trait of the population members is that their work is affected by the automation (and, therefore, by the training). Two secondary traits of the population are that some people use the new automated methods for work and others do not, but these others depend on the work produced with the automated methods.

#### ■ **Methods of Sampling**

Choose a sampling method that allows for any primary and secondary traits the population displays. Following are the two most common sampling methods:

1. **Random sampling.** Every individual in the population has an equal chance of being chosen for the sample. Choosing every 10th person from an alphabetical list of names, for example, provides a random sample.
2. **Stratified random sampling.** The population is divided into constituent parts; then sample members are chosen randomly from the constituent parts. This is done to provide a more representative sample than the random sample. For example, dividing the population into age groups (10-20, 21-30, 31-40, and so forth), then randomly choosing people from each age group, provides a stratified random sample.

#### ■ **Size of Sample**

The size of the sample needed for your survey depends on the following factors: the size of the population; how accurate you want the results to be (that is, how much error is acceptable); and how confident you want to be that the results were not caused by chance.

Findings from samples are actually estimates for the overall population, and therefore have some degree of inaccuracy or error. Think about all the various political and news polls you see on television and in the newspaper. These polls typically give an error rate, such as  $\pm 3.5$  percent, to indicate how accurate the figures are relative to the overall population. This indicates that the actual figure for the overall population is within  $\pm 3.5$  percent of the estimate given. In general, the larger the sample size relative to the size of the population, the more accurate the estimate.

When using a sample, there is also a possibility that the findings you get are caused merely by the random sample you selected, rather than a true reflection of the population. You will need to decide how “confident” you want to be that the findings you get are real and not caused by chance. It is typically acceptable to have one time in 20 that the findings were caused by chance. This is called a 95 percent confidence interval, meaning that 19 times out of 20, or 95 percent of the time, you are confident that the findings are real. In some cases you may decide that it is acceptable to have one time in 10 that the findings were caused by chance (90 percent confidence interval).

If you know how large your population is and can decide in advance what you find to be an acceptable error rate and how confident you want to be with your results, you can determine how large a sample you need to target to meet those criteria.

The graph on page 13 shows the sample size needed (in terms of percent of population) to have an error rate of  $\pm 3.5$  percent with both a 95 percent interval confidence and a 90 percent confidence interval. Use this tool to help determine how large a sample you need to have respond to your survey. For example, if your population size is 200 and you want to be 95 percent confident of your results, you should target to get 80 percent of your population, or 160 people, to complete your survey. If your population size is 1500, you will need to target only 34 percent of your total population.



## Questions

Using questions correctly is the key to achieving successful survey results. The following list of guidelines for questions will help you get accurate answers.

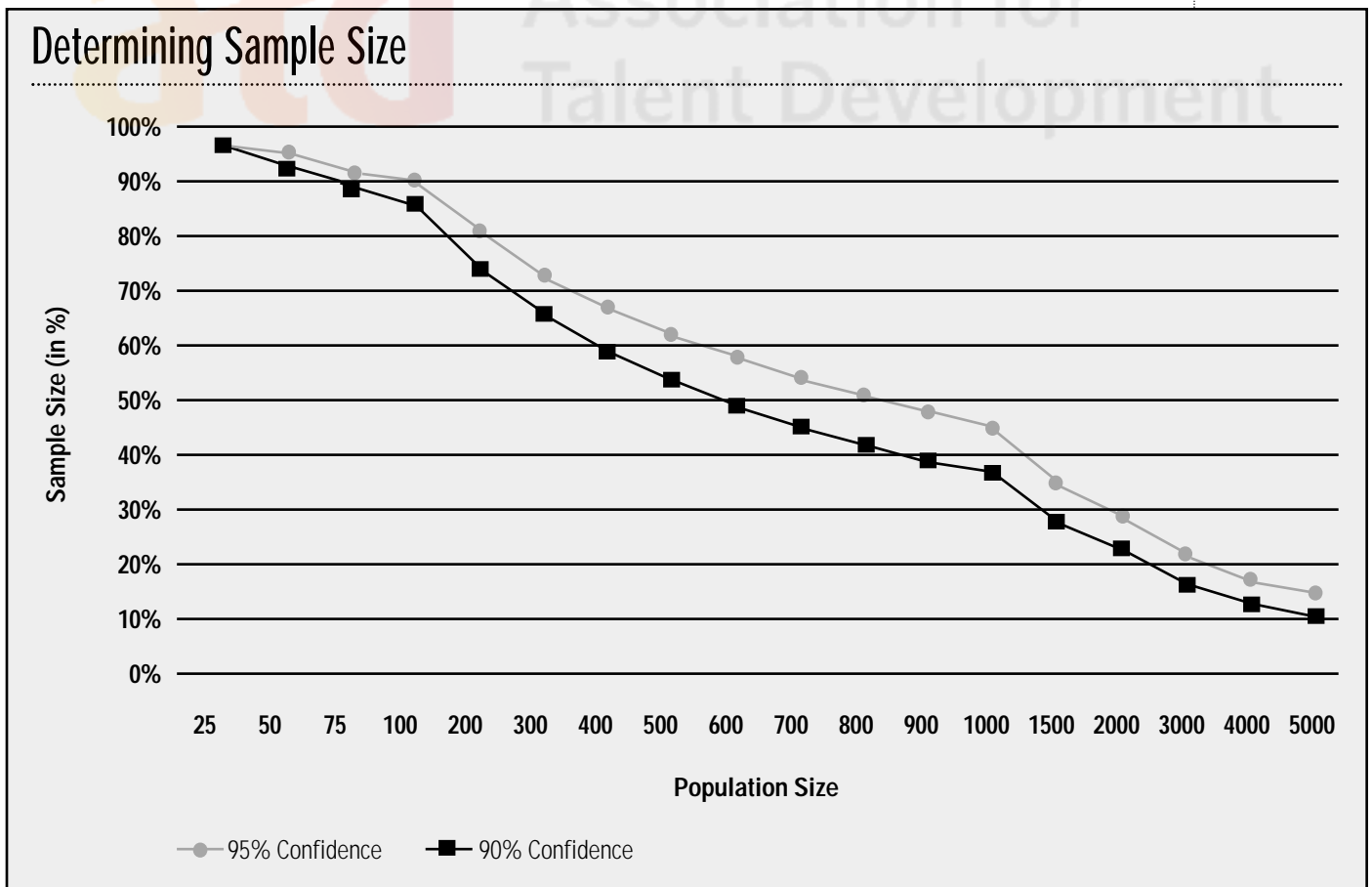
### ■ Structure

Questions have two basic structures: open ended and forced choice. Open-ended questions are those that respondents answer in their own words. Information obtained from these questions is insightful and often most accurate, but quantifying and analyzing the responses are difficult. Consider using these questions with a subsample instead of the whole sample.

Forced-choice questions are those in which respondents choose from the answers listed. Quantifying and analyzing responses to these questions are easy, but the information obtained may include inaccuracies. It may not represent exactly what respondents would say if allowed to choose their own words. When using these questions, make sure you offer all possible answers, including “don’t know” or “indifferent,” and make answers mutually exclusive.

### ■ Specific Purpose

Each question should have one of the following specific purposes: to provide background information and help you describe and theorize about your sample; or to provide the specific data you are trying to obtain in the survey. Asking for information that is simply nice to know makes respondents doubt your credibility.





■ **Bias**

Questions must not give the respondent any clue to the response you expect. For example, the question “Don’t you feel that it is really unfair to expect everybody to get to work on time every day?” will usually provoke a “yes” answer.

■ **Negativity**

Negative questions are often hard to understand. Reword them. For example, “Shouldn’t the government deny foreign access to military information?” can be reworded as “Should the government allow foreign access to military information?”

■ **Repetition**

With written questionnaires, if you wish to repeat a question to test how carefully respondents considered the survey items, remember that respondents may become irritated, even if you reword the repeat questions.

■ **Sensitivity**

Questions about personal or moral issues can elicit emotional responses. Be cautious when asking sensitive questions so you do not lose respondent cooperation. When you ask sensitive questions, word them tactfully and do not use them as the first or last questions of the survey. Remember, sensitive questions generally are reserved for face-to-face interviews.

■ **Clarity**

Questions must be understood and interpreted correctly to be answered accurately. To ensure clarity, follow these guidelines when writing questions:

- Use fewer than 20 words per question.
- Exclude unnecessary words. In the question “Are you currently in the process of automating your work methods?” the words *in the process of* are unnecessary.
- Make sure questions are grammatically correct.

- Make sure wording is exact. For example, if you want to know how many people use audiovisual equipment—perhaps not as expertly as possible—for presentations, do not ask, “Do you ever show slides in client meetings?” Respondents who have used only overhead projectors may reply, “No.”
- With written questions, underline or italicize where necessary to highlight important words or to show respondents where the emphasis in the question belongs. For example, true or false: “I know how to operate an *advanced* widget.”
- Ask for only one piece of information per question. Two-part questions can confuse respondents and provide you with data you did not mean to ask for or cannot use.
- Do not include jargon, technical words, or pretentious language even if you think respondents should understand. What if they do not? Either they will get frustrated and stop cooperating, or they will guess and answer inaccurately.

## Pretesting

You left a vital question out of your interviews. Questions and instructions that seemed perfectly clear to you were misinterpreted by your questionnaire respondents. Spelling mistakes and solid answer boxes you missed caught some of your respondents’ eyes, destroying the professional appearance of your questionnaire. To help avoid problems like these, pretest your survey before administering it. The more ways you pretest, the safer you are in assuming the accuracy of results. There are a number of ways to pretest your survey:

- Send drafts of questions to the client for review, checking that you have asked for all the data needed.
- Circulate drafts of questions to colleagues for comments.
- Test the survey on a small sample population to make certain that instructions and questions are clear and answerable, have all appropriate options listed, and can be completed in a reasonable length of time.

- Ask the data analysts to perform a trial-run analysis with the responses from the trial survey. If you are using a computer for analysis, ask the data entry operator to make some trial entries. You may find that data supplied as you requested are difficult to analyze and that survey structure and format need to be revised.
- Have two people besides yourself proofread final questionnaires before you copy them or have them printed.

## Tabulating and Analyzing Results

After you collect the responses, you will need to tabulate and analyze them. Several books provide detailed instructions for these tasks. Primarily, you will want to use good judgment when analyzing survey results; question the results that do not “feel” right. There are some general tips for completing this final step in the survey process.

With telephone surveys and written questionnaires, be prepared for incomplete surveys and incomplete responses. Decide whether you are going to disregard all of a respondent’s answers if he or she did not complete the survey.

If you are using a computer to tabulate results, check for data entry errors, especially when the operator is entering the first responses. This will prevent the recurring errors created when the operator misunderstands a task. If a staff is manually tabulating results, make sure everybody is using the same tabulating system. Be sure that anyone tabulating results understands the criteria for making decisions on questionable responses. Paraphrase carefully; do not change the meaning of a response.

Use charts and graphs to make the result of each question evident at a glance. Use a cross-tab table for a pictorial comparison of results of two or more questions. (Computers are very useful for doing this.) Cross-tab tables can help you analyze cause-and-effect and complementary relationships. For example, the cross-tab between a question about age and a question about professional development might lead you to report that 20 percent of the employees over age 50 want professional development opportunities.

## Ethics

A lot of people hate surveys. Why? Because too many times when these people were told that the information they supplied would be used for one purpose, they later discovered that it was used for another. Because when they were told that their responses would remain confidential, they were betrayed. Because results were manipulated. You must conduct your survey ethically if you want valid results. Respondents who feel they cannot trust you will not answer questions accurately.

There are a number of rules to follow in order to ensure that you are behaving ethically toward respondents. Never mislead respondents about why the survey is being done. Explain who is being surveyed and what will be done with the data obtained. Do not use the data for any other purpose. If you assure respondents that individual answers will remain confidential, keep that confidentiality. That means confidentiality from the public, such as not publishing a person’s response in a newsletter. It also means more personal confidentiality, such as refraining from telling a colleague “this funny anecdote.” Destroy surveys and list of respondents after results have been tabulated. If you tell respondents they will receive a copy of the survey results, send it.

To ensure that you are behaving ethically toward your client, always approach the survey with an open mind. If you are trying to prove or disprove a personal theory, your desires will bias your questions. You also should approach the survey results with an open mind. If results are not what you expected and you are not convinced they are accurate, research to find out why. Do not throw out responses that contradict the expected outcome. Report the results honestly and directly to the client. Do not withhold information. Do not qualify or downplay results.

Surveys can provide valuable information. Choosing the appropriate type of survey instrument and observing the guidelines covered in this issue of *Info-line* can ensure success in this important method of information gathering and analysis.

## References & Resources

### Articles

- Chaudron, David. "The Right Approach to Employee Surveys." *HRFocus*, March 1997, pp. 9-10.
- . "Survey Methods Questioned." *Human Resources Professional*, Summer 1993, pp. 30-32.
- Fink, Arlene. "Short List, Long-term Memory, and Vice-versa." *American Demographics*, February 1996, p. 8.
- Frazier, Shirley. "Seeking Solutions Through Surveys." *Incentive*, April 1997, pp. 61-62.
- Futrell, David. "Ten Reasons Why Surveys Fail." *Quality Progress*, April 1994, pp. 65-69.
- Garee, Michael L., and Thomas R. Schori. "Focus Groups Illuminate Quantitative Research." *Marketing News*, June 9, 1997, p. H25.
- Greilsamer, Marc. "Post-survey Blues." *Across the Board*, March 1995, pp. 62-63.
- Hodges, Kris. "Ask a Silly Question..." *American Demographics*, May 1997, pp. 20-25.
- Long, Steven A. "Pretesting Questionnaires Minimizes Measurement Error." *Marketing News*, May 27, 1991, p. 12.
- Mehta, Raj, and Eugene Sivadas. "Comparing Response Rates and Response Content in Mail Versus Electronic Mail Surveys." *Journal of the Market Research Society*, October 1995, pp. 429-439.
- Nogami, Glenda Y. "Eight Points for More Useful Surveys." *Quality Progress*, October 1996, pp. 93-96.
- Nowack, Kenneth M. "A True Training Needs Analysis." *Training & Development Journal*, April 1991, pp. 69-73.
- Rollins, Thomas. "Performance Surveys: Quality Tools Emerging for the 1990s." *Employment Relations Today*, Summer 1992, pp. 119-125.
- Seymour, Harry. "Conducting and Using Customer Surveys." *Marketing News*, June 9, 1997, pp. H24, H39.
- Zinober, Joan Wagner. "Do's and Don'ts of Client Satisfaction Surveys." *Law Practice Management*, May/June 1996, pp. 38-40.
- Patton, M.Q. *Qualitative Evaluation and Research Methods*. (2d edition). Thousand Oaks, California: Sage Publications, 1990.
- Reynolds, P.D. *Ethics and Social Science Research*. Englewood Cliffs, New Jersey: Prentice-Hall, 1982.
- Schuman, H., and S. Presser. *Questions and Answers in Attitude Surveys*. Thousand Oaks, California: Sage Publications, 1996.
- Singer, P. *Practical Ethics*. (2d edition). Cambridge: Cambridge University Press, 1993.
- Stewart, C.J., and W.B. Cash Jr. *Interviewing Principles and Practices*. (7th edition). Dubuque, Iowa: Brown and Benchmark, 1993.
- Sudman, S., and N.M. Bradburn. *Asking Questions: A Practical Guide to Questionnaire Design*. San Francisco: Jossey-Bass, 1982.
- Zemke, R., and T. Kramlinger. *Figuring Things Out: A Trainer's Guide to Needs and Task Analysis*. Reading, Massachusetts: Addison-Wesley, 1982.
- Babbie, E.R. *Survey Research Methods*. (2d edition). Belmont, California: Wadsworth, 1990.
- Bateson, J. *Data Construction in Social Surveys*. London: Allen and Unwin, 1984.
- Berdie, D.R., et al. *Questionnaires: Design and Use*. (2d edition). Metuchen, New Jersey: Scarecrow Press, 1986.
- Bulmer, M. (ed.). *Censuses, Surveys and Privacy*. New York: Holmes and Meier, 1980.
- Dunham, R.B., and F.J. Smith. *Organizational Surveys: An Internal Assessment of Organizational Health*. Glenview, Illinois: Scott, Foresman, 1979.
- Gallup, G. *The Sophisticated Poll Watcher's Guide*. Princeton, New Jersey: Princeton Opinion Press, 1972.
- Kesselman-Turkel, J., and F. Peterson. *Research Shortcuts*. Chicago: Contemporary Books, 1982.
- Laird, D. *Approaches to Training and Development*. (2d edition). Reading, Massachusetts: Addison-Wesley, 1985.

### Books

### Info-lines

- Callahan, Madelyn, ed. "Be a Better Needs Analyst." No. 8502 (revised 1998).
- . "Be a Better Task Analyst." No. 8503.
- Gilley, Jerry W. "How to Collect Data." No. 9008 (revised 1998).
- Hacker, D.G. "Testing for Learning Outcomes." No. 8907 (revised 1998).
- Martelli, J. T., and D. Mather. "Statistics for HRD Practice." No. 9101.

## Survey Plan

---

1. State the purpose of the survey (25 words or less). Include the name of the survey sponsor.

---

---

---

---

---

---

---

---

2. List the data needed.

---

---

---

---

---

---

---

---

3. List the ways in which your client will use the data obtained.

---

---

---

---

---

---

---

---

4. Describe the survey respondents.

Size of population: \_\_\_\_\_

Primary traits of population: \_\_\_\_\_

Secondary traits of population: \_\_\_\_\_

Size of sample: \_\_\_\_\_

- Sample is a cross section of the population.
- Sample is large enough to be reliable.

*Job Aid continued on page 18*

## Job Aid

5. Check the type(s) of survey you will conduct.

- Face-to-face interview
- Telephone interview
- Written questionnaire
- Electronic questionnaire

6. Timetable for each type of survey you will conduct:

	Research	Prepare	Pretest	Conduct	Analyze
• Face-to-face interview					
• Telephone interview					
• Written questionnaire					
• Electronic questionnaire					

## 7. Estimate the cost of each type of survey you will conduct.

- Face-to-face interview

Wages + Interview training + Data tabulation/analysis costs + Other = Total \_\_\_\_\_

- Telephone interview

Wages + Interview training + Telephone charges + Data tabulation/analysis costs + Other = Total \_\_\_\_\_

- Written questionnaire

Wages + Paper/printing + Postage + Data tabulation/analysis costs + Other = Total \_\_\_\_\_

- Electronic questionnaire

Wages + Software/design costs + Online charges + Data tabulation/analysis costs + Other = Total \_\_\_\_\_

## 8. Question checklist (complete for each question):

- has specific purpose
- is unbiased
- is positive, not negative
- if open ended, is not vague
- if forced choice, offers all possible choices
- if sensitive, is tactful
- if a repeat, is reworded
- is clear and concise

*Job Aid continued on page 20*

# Job Aid

9. Rough drafts of questions should be circulated for survey pretest to:

Client(s): \_\_\_\_\_

\_\_\_\_\_

Colleagues: \_\_\_\_\_

\_\_\_\_\_

Small sample population: \_\_\_\_\_

\_\_\_\_\_

Data analysts: \_\_\_\_\_

\_\_\_\_\_

Data entry operators: \_\_\_\_\_

\_\_\_\_\_

10. State your plan for keeping track of which respondents have/have not been contacted.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



11. What steps will be taken with results of incomplete surveys/questions?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

12. Can you guarantee confidentiality? . . . . .  yes  no

13. Can you approach the survey and its results with an open mind? . . . . .  yes  no

14. Can you report the results honestly? . . . . .  yes  no



# Order Selected *Info-line* Single Issues

## Business Skills

- Iss. No.  
9907 Conducting Focus Groups  
9007 Cost-Benefit Analysis  
8806 Listening to Learn  
8710 Productive Meetings  
9004 Project Management  
9506 Time Management

## Career Development

- Iss. No.  
9504 Career Advising  
9410 Career Systems Development  
8708 Orientation Programs  
9312 Succession Planning

## Consultant's Series

- Iss. No.  
9515 Ethics  
9403 Outside Consulting  
9613 Promoting Your Business  
9513 Write A Business Plan  
9514 Write a Marketing Plan

## Evaluation & Research

- Iss. No.  
9801 Benchmarking  
9008 Collect Data  
9705 Essentials for Evaluation  
9709 Evaluating Technical Training  
0001 Measure Customer Satisfaction  
9813 Level 1 Evaluation  
9814 Level 2 Evaluation  
9815 Level 3 Evaluation  
9816 Level 4 Evaluation  
9805 Level 5 Evaluation: ROI  
8612 Surveys from Start to Finish  
8907 Testing for Learning Outcomes

## Instructional Systems Development

- Iss. No.  
9706 Basics of ISD  
8505 Behavioral Objectives  
8905 Course Design & Development  
9201 Dev. & Admin. Training  
9711 Effective Job Aids  
9707 Training Manuals  
9712 Instructional Objectives  
8906 Lesson Design & Development  
9611 Mini Needs Assessment  
9401 Needs Assessment by Focus Groups  
8502 Needs Analyst  
9408 Strategic Needs Analysis  
9808 Task Analysis

## Management Development

- Iss. No.  
8902 15 Activities for Creativity  
9508 360-Degree Feedback System  
9006 Coaching & Feedback  
8909 Coming to Agreement  
8901 Creativity  
9011 How to Delegate  
9402 Leadership  
9904 Managing Change  
8711 Management Development  
Process  
9108 Motivation  
9005 Performance Appraisal  
9809 Scenario Planning  
9710 Strategic Planning  
9107 Visioning

## Managing the Training Function

- Iss. No.  
0002 Outsourcing Training  
9503 Core Competencies  
8504 Facilities Planning  
9913 Global Training Success  
8506 Good Learning Environments  
9603 How to Partner  
8605 Market Your Training Program  
9708 OJT  
9003 Training Managers to Train  
8705 Training with Partners

## Organizational Development

- Iss. No.  
9602 16 Steps to Learning Organization  
9704 Action Learning  
9807 Chaos & Complexity Theory  
9903 Knowledge Management  
9306 Learning Organizations  
8812 Organization Development  
9304 Organizational Culture  
9703 Systems Thinking

## Performance

- Iss. No.  
9910 Evaluating Performance  
Interventions  
9702 From Training to Performance  
9811 Fundamentals of HPI  
9606 Link Training to Performance Goals

## Presentations Skills & Games

- Iss. No.  
8411 10 Great Games  
8602 Alternatives to Lecture  
8911 Icebreakers  
9409 Improve Your Speaking Skills  
8606 Make Every Presentation a Winner  
8412 Simulation & Role Play  
8410 Visual Aids

## Teams & Quality

- Iss. No.  
9210 Continuous Process Improvement  
9111 Fundamentals of Quality  
9906 Group Decision Making  
9407 Group Process Tools  
9406 How to Facilitate  
9901 Service Management 2000

## Training Basics

- Iss. No.  
9609 3-5-3 Approach to Creative Training  
9209 Accelerated Learning  
8808 Basic Training for Trainers  
9608 Do's & Don'ts for New Trainers  
8604 Effective Workshops  
9911 Teaching SMEs to Train  
9909 Technical Training  
8804 Training & Learning Styles  
9804 Transfer of Skills Training

## Training Technology

- Iss. No.  
9701 Delivering Quick Response IBT/CBT  
9607 Distance Learning  
9806 EPSS  
9908 Evaluating Off-the-Shelf CBT  
Courseware  
0003 Implementing WBT  
9802 Intranets  
9810 Job Oriented Computer Training  
9902 Learning Technologies  
9905 Training Telecommuters

## Workplace Issues

- Iss. No.  
9912 Sexual Harassment

For a complete listing of all available *Info-line* issues, visit us at: [www.astd.org](http://www.astd.org)

See attached card for ordering information, or call 800.628.2783 or 703.683.8100



1640 King Street  
Box 1443  
Alexandria, VA 22313-2043  
PH 703.683.8100, FX 703.683.8103  
[www.astd.org](http://www.astd.org)

atd  
Association  
for  
Talent  
Development

