
A Primer in Survey Research

By
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Introduction

Adult educators are not ivory tower recluses. Adult educators are uniquely anchored in the “real” world of literacy, health care, industrial training, correctional facilities, volunteerism, workers’ education, and professional education. Our theoreticians are doers as well as thinkers—Horton, Dewey, Lindeman, Knowles, Coady, Kozol, and Freire, to mention a few.

Many terminal degrees in the adult education field are D.Ed. or Ed.D. rather than Ph.D., another reflection of the practical, practitioner orientation to which we subscribe. Coorough and Nelson (1991), in a content analysis of 1,007 Ph.D. and 960 Ed.D. dissertations, concluded that the Ed.D. dissertation includes more survey research and a substantial portion of this research (42 percent) is done on the local level (institution, state, or region).

While the choice of research method to pursue is, of course, based on the research questions to be answered as well as the resources available, survey research is particularly well adapted to the pragmatic world of adult education. “Descriptive research is the most common form of research used in adult education” (Merriam and Simpson, 1995, p.71), and the survey is “the most common technique used for gathering data in descriptive research” (p. 70).

This paper provides a short primer on survey research. Topics include: when to use survey research, types of survey research, methods of survey research, steps involved in conducting survey research, and improving response rates.

When To Use Survey Research

Babbie (1995) proposed that “survey research is probably the best method available to the social scientist interested in collecting original data for describing a population too large to observe directly” (p. 257). Babbie also recommended survey research to measure “attitudes and orientation in a large population” (p. 257). Salant and Dillman (1994), in discussing the appropriateness of survey research, stated: “If your goal is to find out what percentage of some population has a particular attribute or opinion, and the information is not available from secondary sources, then survey research is the only appropriate method” (p. 9).

When conducted properly, survey research will provide information about *what is*; what are “the characteristics, behavior, or opinions of a particular population” (Salant and Dillman, 1994, p. 10). A caveat to survey research, however, is that people’s behaviors cannot be measured with a survey. A survey “can only measure their perceptions of those behaviors” (J. C. Sherblom, C. F. Sullivan, and E. C. Sherblom, 1993, p. 58). This caution should be considered during the construction of the survey instrument so that precise wording will capture the information desired.

Survey research is appropriate not only for large, well funded projects, such as that conducted by Aslanian and Brickell under the auspices of the College Entrance Examination Board to explore Americans in transition (1980), but also for the smaller, more focused action research encouraged by Quigley (1995) and Rose (1992). Practitio-

ners in adult and continuing education need to examine their practices systematically and share their findings with others in the field. Carefully designed survey research can be an excellent tool in this endeavor.

Once the decision has been made to conduct survey research, the researcher must make every attempt to perform ethically. This includes encouraging participation but not pressuring participation (Salant and Dillman, 1994, p. 9). Anonymity and confidentiality of participants are issues that must be addressed well before actual administration of the survey. The scope of this paper does not include ethics in research, but a perusal of the chapters in Merriam and Simpson (1995) or Babbie (1995) on ethics in social research is strongly encouraged for any researcher before embarking on a research project, whatever its size or scope.

Types of Survey Research

The literature in adult and continuing education is replete with references to *programs*. Part Three of the *Handbook of Adult and Continuing Education* (1989) lists eleven providers of educational *programs* for adults. These providers include four-year colleges and universities, cooperative extension services, armed forces, correctional facilities, public libraries and museums, and religious institutions, to mention just a few.

In *Planning Programs for Adult Learners*, Caffarella (1994) identifies eleven tasks to be completed in planning a program for adult learners. Information

gleaned from carefully constructed surveys could be useful in completing many of these tasks. Before a program is initiated, the planner must be fully aware of existing conditions both within and without the organization, information that surveys can gather. Identifying program ideas, sorting and prioritizing program ideas, and developing program objectives can be expedited by a survey of potential participants. Information on participant preferences for learning strategies and instructors can be acquired through surveys. Evaluations may include participant surveys to gain feedback on the program conducted as well as ideas for future programs. Information gleaned from participant surveys can provide data for communicating the value of programs conducted to sponsoring or other appropriate individuals and committees.

Salant and Dillman (1994) described three general types of survey research which the adult and continuing educator may employ:

- A **needs assessment survey** to solicit opinions about problems and possible solutions.
- A **marketing survey** to evaluate the nature and level of demand for particular programs.
- An **evaluation survey** to learn about the impact of public or private programs and policies. (p. 10)

Each type of research provides information often sought by adult or continuing education practitioners that may be gathered through various survey research methods.

Methods of Survey Research

This section provides a description of five survey research methods: mail, telephone, face to face, drop-off, and electronic. Each method is evaluated as to its best use. "No single method can be judged superior to the others *in the abstract*. Instead, each should be evaluated in terms of a specific study topic and population, as well as budget, staff, and time constraints" (Salant and Dillman, 1995, p. 33). More than one type of survey may be employed in a research project to test the same finding and thus strengthen the validity of the conclusions. For example, face-to-face surveys may be followed by telephone surveys to individuals not previously interviewed.

Mail Surveys

The simple method for conducting a survey through the mail includes sending a questionnaire with a letter explaining the purpose of the study to participants in a selected sample. A self-addressed, stamped envelope is enclosed to facilitate return of the survey. Follow-up letters and reminders may be sent a specified period of time after the original mailing.

According to Salant and Dillman (1994), mail surveys are best suited for:

- surveys of people for whom reliable addresses are available and who are likely to respond accurately and completely in writing
- surveys in which an immediate turnaround is not required
- projects in which money, qualified staff, and professional help are all relatively scarce (p. 37)

The definitive work on conducting mail surveys remains Dillman's text, *Mail and Telephone Surveys* (1978). The Total Design Method (TDM) expounded by Dillman includes detailed steps for construction of the survey instrument and implementation of the survey. Each detail, from preparation and printing of the questionnaire and cover letter; through font, point, and paper size; to the exact timing of follow-up mailings, is covered with precise rules for implementation of the TDM.

Example: Gardner-Sass (1995) used a three-page mailed questionnaire to examine employer attitudes toward hiring individuals trained through welfare training programs, gleaned valuable data about employer perceptions and practical suggestions for improving training programs.

Telephone Surveys

Telephone surveys are lauded for their ease of administration and follow up. A sample drawn from a telephone directory or other listing of phone numbers is easy to access. Interviewers record the answers to the survey instrument either by hand onto a survey form or directly into a computer. The advantages of random-digit dialing with its access to all telephone listings, not just those published in directories, and add-a-digit sampling¹ have been mitigated by the popularity of telephone answering machines to screen unwelcome calls (Babbie, 1995, p. 271).

Salant and Dillman (1994) recommended telephone surveys when:

- members of the population are very likely to have telephones
- questions are relatively straightforward
- experienced help is available
- quick turnaround is important (p. 40)

The Total Design Method (TDM) by Dillman is also applicable to telephone surveys. Again, attention to detail is the distinguishing feature of the method. Sending an advance letter may increase response rates and improve data quality while facilitating respondent cooperation (Dillman, 1978, p. 245). Dillman's meticulous method for telephone surveys also covers instrument creation and staff training. Even with the innovations in communications since 1978 when Dillman's book was published, his methods continue to be relevant and effective.

Example: In a study of the perceptions and expectations for a portfolio assessment program, Fisher (1993) effectively used a telephone survey to confirm the findings that emerged from face-to-face interviews and to probe for additional insights. The telephone survey was administered to students and faculty who had not participated in the interviews.

Face-to-Face Surveys

In a face-to-face survey, an interviewer asks the respondent questions and records the answers. In this type of survey, the interviewer plays a very visible, important role. The ideal interviewer is a neutral individual whose appearance, personality, demeanor, and opinions do not influence the respondent. The interviewer must be a trained individual, familiar with the survey instrument, skilled in recording responses verbatim, and able to probe intelligently for full answers.

Salant and Dillman (1994) recommended the use of face-to-face surveys for:

- surveying populations for whom there is no list
- collecting information from people who are not likely to respond willingly or accurately (or cannot be reached) by mail or telephone
- complex questionnaires
- well-funded projects for which experienced interviewers and professional help are available (p. 42)

The interview survey is expensive to administer, but the presence of a trained interviewer encourages greater depth in data

collection than is possible with other techniques. However, while trained interviewers are costly to employ, untrained interviewers may compromise the integrity of the research project.

Example: Askov and Brown (1995) utilized pre- and post-interview surveys in a major study of four workplace literacy projects funded by the U. S. Department of Education's National Workplace Literacy Program. "Students, teachers, industry trainers, supervisors, and plant managers or CEOs" (p. 23) were interviewed for their reactions to the programs being evaluated.

Drop-off Survey

A drop-off survey is delivered by hand to the intended recipient. The individual completes the instrument at his/her leisure. The survey is either returned by mail or picked up by a study employee. This survey method is personalized by the hand delivery and/or pickup and is most appropriate for:

- a small community or neighborhood survey in which respondents are not spread over a large area
- relatively short and simple questionnaires
- projects with a small staff but relatively large sample size (Salant and Dillman, 1994, p. 43)

Example: Watson (1997) used this survey method in a study of the responses of institutions of higher education to adult students. Key informants at participating institutions completed a questionnaire describing their institutions and their perceptions of the institutional response to adult students.

Electronic Survey

Using electronic mail to conduct survey research is a natural result of the phenomenal growth in private and public electronic networks as well as increased accessibility of the Internet. Thach (1995) defined this survey method as "the systematic data collection of information on a specific topic using computer questionnaires delivered to an on-line sample or population. Respondents receive, complete, and return their questionnaires via E-mail" (p. 27).

E-mail surveys are inexpensive to administer, as paper questionnaires, telephone line charges, or interviewer salaries

are not necessary. Questionnaire changes are easy to make and transmission is almost instantaneous. An estimate of participation level may be quickly adduced by extending an invitation to participate in a study. In some instances response rates may be higher with electronic surveys than with paper surveys, and respondents are more candid in their answers than with paper surveys or interviews (Thach, 1995, p. 31).

The most glaring disadvantage of E-mail survey research is the limitation to a population with access to an electronic network. Anonymity and confidentiality, while always a consideration in survey research, are particularly difficult to maintain in the open climate that pervades most networks. The intricacies of constructing an effective computer questionnaire and developing instructions for respondents to successfully complete the instrument online may intimidate some researchers. A final obstacle, and one familiar to those who work with any computer technologies, is that of potential technical problems with hardware and software.

In light of the peculiar characteristics of E-mail surveys, they may be most appropriate when:

- members of the population have E-mail access
- the researcher has access to the targeted networks
- the researcher has the technological experience to create and administer the instrument

Adult and continuing educators interested in conducting an electronic survey have access to several active listserves dedicated to the interests of subscribers. AED-NET (listproc@pulsar.acast.nov.edu), CPAE (listserv@tamvm1.tamu.edu), ED-INFO (listproc@inet.ed.gov), LEARNER (listserv@nysernet.org), and LITERACY (listserv@nysernet.org) are a few of those available.

Steps Involved in Conducting Survey Research

Whether the adult or continuing educator is conducting a needs assessment, marketing survey, or evaluation survey, the basic steps to follow in designing, implementing, analyzing, and evaluating the survey are rather standard. J. Sherblom et al. (1993) enumerated five questions to answer to assure significant and useful study results:

1. What do we want to know?
2. About whom do we want to know it?
3. How do we word the questions?
4. How do we elicit appropriate and adequate responses?
5. How do we interpret the results?

While these questions provide very simple starting points and seminal concepts, Salant and Dillman (1994, p. 11) delineate "Ten Steps for Success" which form the basis of the chapters of their book, *How to Conduct Your Own Survey*.

1. *Understand and avoid the four kinds of error.* While it is impossible to remove all errors in a survey, an understanding of the four kinds of errors and how to mitigate their influence is invaluable.

- Coverage error occurs when the list from which a sample is drawn does not include all elements of the population that researchers wish to study (p. 16).

- Sampling error occurs when researchers survey only a subset or sample of all people in the population instead of conducting a census (p. 17).

- Measurement error occurs when a respondent's answer to a given question is inaccurate, imprecise, or cannot be compared in any useful way to other respondents' answers (p. 17).

- Nonresponse error occurs when a significant number of people in the survey sample do not respond to the questionnaire and are different from those who do in a way that is important to the study (p. 20).

Again, it is impossible to remove all errors in a survey. However, careful selection of the target population with close attention to their characteristics, their motivation, their accessibility, and their ability to respond will enhance participation in the survey (Queeney, 1995).

2. *Be specific about what new information you need and why.* Survey objectives must be defined very specifically before the study can be designed. This includes stating exactly what problem is to be solved and what information is needed to solve it. Thinking in terms of results and utilizing focus groups may be helpful in refining survey objectives.

While speaking of needs assessment, Queeney (1995) emphasized the importance of this step. "By specifying the objectives that incorporate the needs assessment purpose, the scope of the proposed study, the target population, the resources to be allocated to the endeavor, and the level of complexity, it is

possible to bring broad goals into sharper focus” (pp. 27–28).

3. *Choose the survey method that works best for you.* The various types of survey research were described above. A researcher is always constrained by staff size and expertise, time, facilities, and money. The research questions being pursued and the mix of constraints will determine the survey method. Dillman (1978) provided a definitive chapter of choosing among mail, telephone, and face-to-face surveys which is required reading for the novice researcher.

Queeney (1995) also provided a “must-read” chapter for adult or continuing researchers devoted to methods of research for beginners. Limited access to ideal methodology and plentiful resources should not deter a neophyte researcher from plunging ahead and using the methodology and resources available and appropriate for the prevailing circumstances.

4. *Decide whether and how to sample.* If querying everyone in a population is too expensive or unrealistic, sampling is a viable alternative. Sampling involves precisely identifying the target population, assembling a list of the target population, and selecting the sample from the list. Simple random sampling, where each member of the population has an equal chance of being included, is the most elementary sampling method. (See Chapter 2, pp. 186–228, of Babbie [1995] for a more comprehensive discussion of sampling methods.)

Some types of research, such as action research may preclude sampling. Kemmis and McTaggart (1984), quoted in Quigley (1995), defined action research as:

- Trying new ideas in practice as a means of improvement and as a means of increasing knowledge about the curriculum, teaching, and learning. The result is improvement in what happens in the classroom and school, and the better articulation and justification of the educational rationale for what goes on. Action research provides a way of working which links theory and practice into one whole: ideas-in-action (p. 64).

- One of the characteristics of this practical research methodology is that “participants are not systematically sampled or selected; they are part of a

natural ‘flow’ of human activity” (Merriam & Simpson, 1995, p. 123).

5. *Write good questions that will provide useful, accurate information.* There have been many guidelines written for formulating survey questions. Dillman (1978) stated general principles for question construction. Determination of the *kind* of information being sought (attitudes, beliefs, behavior, attributes) is elemental to question construction. Dillman also offered guidance in question structure and precise wording.

Pilot testing of the questionnaire is strongly recommended “to ensure that the questions asked are clear and the response options are comprehensive and appropriate” (Queeney, 1995; p. 146). Individuals comparable to the targeted population are asked to complete the pilot questionnaire and comment on the clarity and suitability of the directions and questions.

6. *Design and test a questionnaire that is easy and interesting to answer.* Mail, telephone, and interview surveys rely on different methods of communicating. In the mail survey, the questionnaire is seen by the respondent and must be regarded as worthwhile to complete. This means attractive, convenient presentation with concise directions. Dillman’s (1978) initial, detailed instructions for a successful mail survey have been revised slightly in Salant and Dillman (1994, pp. 102–121).

While mail surveys are created to please the eye of respondents, telephone and interview surveys must be understood orally. This necessitates attention to the convenience of the interviewer in recording responses as well as attention to the burden of listening put upon the respondent. Questions should be short and simple. Again, Dillman’s (1978) initial, detailed instructions for the construction of effective telephone and interview surveys have been updated in Salant and Dillman (1994, pp. 121–135).

7. *Put together the necessary mix of people, equipment, and supplies to carry out your survey in the necessary time frame.* This last step in survey design involves different procedures for each survey method. A detailed schedule and timeline for supervision, clerical help, equipment, and supplies must be carefully constructed to fully utilize the resources available. A precise plan for follow-up mailings, telephone calls, or interviews must be determined. Guid-

ance through the administrative minutiae is readily available in Dillman (1978) and Salant and Dillman (1994).

Suskie (1996) emphasized the need for a comprehensive, detailed list of all things that must be done to complete the project. “For each item, note (1) when it must be completed, (2) how long it will take to do, and (3) when it must be started” (p.21). This is the beginning of a formal timeline for the research project. Whether the adult or continuing educator is conducting a small action research project within a classroom or administering a large, university sponsored research project, creation of and adherence to a timeline is a vital component in the successful completion of any research project.

8. *Code, computerize, and analyze the data from your questionnaires.* With the growth in personal computers and the advent of statistical packages (e.g., SPSS, Excel), data analysis is no longer the formidable task it once was. Software documentation provides background on basic statistical concepts needed to perform most data analysis. However, the researcher must still design an appropriate coding system for each answer on the survey instrument, make a master list of all the codes, edit and code the questionnaires, and enter the data into the computer.

If careful attention has been taken by the researcher from the onset of the project in the development of the objectives and methodology, this step should not be an issue. Long before the data is entered, detailed procedures have been devised that will yield the information needed and desired.

9. *Present your results in a way that informs your audience, orally or in writing.* Once the sought-after information has been collected and analyzed, it must be presented in a way that conveys the data while maintaining the interest of the audience. Salant and Dillman (1995) suggested preparing both written and oral presentations while cautioning that “It is critical to understand that what makes an effective written report usually makes a dreary and boring verbal presentation, and vice versa” (pp. 202–203).

Identifying the audience for the survey results is a crucial step to be taken prior to writing up results. The following points are considerations from an institutional perspective:

- What is your readers' frame of reference? Do they have a broad understanding of your institution, or do they see everything only in terms of their own responsibilities? Do they understand and appreciate your institution's history, values, culture, and environment? Are they aware of the relative strengths and weaknesses of your students, your programs, and your resources?

- What are their needs? What kind of support and help would they like from you? Is their most pressing need for more resources, more attention, or more respect? Do they want support for the status quo or for initiating change?

- Are they already familiar with what you have been doing, or will they need a complete description of what research was done?

- Do they have time to study an extensive report, or will they want only a short summary?

- Will they want only your findings and recommendations, or will they want to know how you arrived at your conclusions?

- Are they knowledgeable about empirical research methodology, or will you need to explain what you did in layperson's language?

- Are they likely to criticize the study? Will you need to anticipate their criticism and incorporate responses into your report?

- Are they likely to be questioned about the study by others? Will they need sufficient details to respond to others' concerns? (Suskie, 1996, pp. 115–16)

Preparing a written report ensures that a complete record of the research project will be available. An oral presentation, on the other hand, usually contains the most relevant, interesting information. Graphics are very effective in both oral and written presentations, to engage the audience and dramatize the results of a research project.

10. *Maintain perspective while putting your plans into action.* In this final step of survey research, Salant and Dillman (1994) encouraged researchers "to develop a work plan and timetable that budgets and coordinates all of your resources—including money, any volunteer efforts, and time for each activity that needs to be done" (p. 220). Researchers (Babbie, 1995; Dillman, 1978; Merriam and Simpson, 1995;

Salant and Dillman, 1994) agree that survey research is a complex activity with discrete steps to be followed to a successful conclusion.

A final aspect of this last step is seeking assistance when it is needed. It is important that adult and continuing education researchers not be deterred from pursuing survey research by a perceived weakness in quantitative analysis. For beginning researchers, assistance in designing instruments and creating methodology that will yield the information desired may be essential. Salant and Dillman (1994) suggested turning to a college or university campus for advice on survey research and enumerated several organizations and publications which also provide information on survey methods (pp. 218–19).

While such a rigorous attention to planning and details may seem laborious for a novice researcher, only careful preparation will result in useful information. As Queeney (1995) noted: "A poorly conducted survey is worse than no survey at all, for it will yield bad data, possibly leading to bad decisions" (p. 143).

Improving Response Rate

When conducting survey research, a high response rate guards against response bias where nonrespondents are likely to differ from respondents in ways that affect the results of the study (Babbie, 1995, p. 261). For mail surveys, Babbie (1995) contended that at least a 50 percent response rate is necessary for analysis and reporting, while a 60 percent response rate is considered good, and a 70 percent response rate is very good (p. 262).

Dillman spoke to this issue in terms of "social exchange;" people are motivated to act because of the rewards they anticipate receiving as a result of their actions (Dillman, 1978, pp. 12–18). "Whether a given activity occurs is a function of the ratio between the perceived costs of doing that activity and the rewards one expects the other party to provide at a later time" (p. 12). Potential program participants, therefore, may be more inclined to "buy into" a program when they have been surveyed as to their needs and preferences for programs. To encourage response, Dillman suggested that the researcher:

1. Reward the respondent by:
 - showing positive regard

- giving verbal appreciation
 - using a consulting approach
 - supporting his or her values
 - offering tangible rewards
 - making the questionnaire interesting
2. Reduce costs to the respondent by:
 - making the task appear brief
 - reducing the physical and mental effort that is required
 - eliminating chances for embarrassment
 - eliminating any implication of subordination
 - eliminating any direct monetary cost
 3. Establish trust by:
 - providing a token of appreciation in advance
 - identifying with a known organization that has legitimacy
 - building on other exchange relationships (p. 18)

As Dillman (1978) made clear throughout his text, these considerations permeate the Total Design Method for mail and telephone surveys and must be addressed throughout the construction of the survey and the cover letters or introductory remarks.

In a study evaluating data quality in mail, telephone, and face-to-face surveys, deLeeuw (1992) determined that survey methods with an interviewer (telephone survey and face-to-face survey) resulted in higher response rates and lower item nonresponse, but also produced more socially desirable answers than did mail surveys (p. 118). Researchers did not have to rely solely on the written word to express appreciation or establish trust with respondents.

J. Sherblom et al. (1993) spoke for brevity when they stated that responses to mail surveys drop dramatically if the instrument takes more than 20 minutes to complete. They reported research studies that increased response rates by gaining management authorization for workers to complete a survey during working hours. Mention of university sponsorship, "a pre-notification letter, use of first-class postage to mail the survey, enclosure of a stamped return postage envelope, and a follow-up postcard" (p. 60) were found to increase response rates for mail surveys. A brief but comprehensive cover letter to introduce the purpose of the study and the researchers, ensure anonymity of respondents, and offer to send results also was found effective in increasing response rate (p. 60).

Hopkins and Gullickson (1992) reported an increase of 19 percent in the average response rate when a gratuity was

enclosed with a mailed survey. The average increase was 7 percent when the gratuity was promised upon receipt of the completed questionnaire.

A practical note by Salant and Dillman (1994) stated that "The last few questionnaires that nudge the response rate to an acceptable level are the most expensive to secure" (p.43). This is a result of the higher expense of an interviewer returning time after time to conduct an interview, while the cost of additional mailings or follow-up phone calls is considerably less.

Salant and Dillman (1994) provided three options to achieve higher responses:

- Give potential respondents a monetary incentive to complete and return their questionnaire.
- Call nonrespondents a few days after mailing the replacement questionnaire.
- Send a fifth mailing (four mailings are suggested as the standard) by two-day priority mail.

However, Sherblom et al. (1993) summed up the response rate issue: "A survey that is well-designed, well-introduced, and one that stimulates respondents' perceptions of the value and importance of the research project will likely obtain the best overall response" (p. 60).

Conclusion

The scope of this paper was limited to a description of and introduction to survey research. Comprehensive works quoted within the paper are suggested as references for the reader who wishes to delve deeper into the subject.

Note

1. This technique involves drawing a random or systematic sample from the di-

rectory and then adding a randomly chosen number from 1 to 9 to the last digit of each number in the sample. One way to accomplish this is to add the same digit to each phone number (Salant and Dillman, 1994, p. 67).

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