

CHAPTER FIVE: INTERVIEWER TRAINING

The interviewing staff of a statistical agency is the backbone of its data collection effort. The quality of interviewer training is a concern for host and sponsoring agencies. The Census Bureau, the National Agricultural Statistics Service, and the Bureau of Labor Statistics use the largest interviewing staff among federal statistical agencies. These agencies collect data for their own agency surveys and on a reimbursable basis for other agencies and organizations. Their programs are very different in approach and nature. Reasons for this include the agencies' unique training audiences and the disparate nature of their interviewers' work. Interviewers include both agency employees and employees of other organizations. The BoC and BLS hire permanent employees who are dedicated to specific data collection programs while NASS uses temporary interviewers who work on a variety of surveys. The BoC, NASS, and BLS looked closely at their interviewer training programs prior to the introduction of computer-assisted interviewing, given the fact that the technology imposed new skill requirements upon interviewers.

This chapter offers a more detailed perspective of the training components of the interviewer operations at these agencies. The first three sections outline agency interviewer selection criteria; training program design, development, and delivery; survey content training; training evaluation; and the role of quality assurance in identifying training needs. The last two identify interviewer training issues and future direction. Figure 1 defines commonly used terms relating to various aspects of training interviewers.

Figure 1. Acronyms and Definitions

CAI	Computer-assisted interviewing.
CAPI	Computer-assisted personal interviewing: a personal visit, using an automated data collection tool such as a laptop computer to display the questionnaire and enter data directly. Follow-on interviews may be conducted by phone from the interviewer's home.
CATI	Computer-assisted telephone interviewing: interviewing from a telephone center, using a computer from which questions are read and in which responses are recorded.
CPS	Current Population Survey.
Enumerator	Performs the same duties as interviewer, as well as recording field measurements of crop counts, collecting crop samples, and observing for non-response. This term is used in NASS instead of interviewer.
FR	Field Representative: an interviewer who works out of his/her home and reports to a field office.
GIST	General interviewing skills and techniques.
Instrument	The survey questionnaire, either paper or electronic.
Interviewer	An individual who seeks information from selected respondents using a standardized questionnaire on which the interviewer records and transmits the data for later tabulation. Most inquiries are initiated by the interviewer.
NASDA	National Association of State Departments of Agriculture. NASS and NASDA have a cooperative agreement in which NASDA employs enumerators for NASS surveys and pays salaries, travel expenses, and other costs associated with data collection.
Training	This chapter discusses training in the context of interviewer training in a structured learning environment in which stated objectives are designed to produce acceptable interviewer performance.

1. Interviewer Recruitment and Selection

Census Bureau interviewers are recruited by regional offices and telephone centers to fulfill specific program interviewing needs and, after passing qualifying procedures, are hired as agency employees. NASS interviewers, on the other hand, are contract workers employed by NASDA. Interviewer selection is the responsibility of the NASDA supervisor. For both agencies, training is agency-provided. In the Census Bureau, interviewer performance is assessed by the agency, and in NASS, the NASDA supervisor evaluates the enumerator performance.

For NASS, an interviewer is either a NASDA field enumerator or a NASDA state office enumerator. Because of the specific terms of the NASS/NASDA agreement, NASDA has the hiring responsibility for all interviewers who collect data for NASS surveys. Although field and state office enumerators perform many of the same tasks, there are differences in how and where they perform their work. Field enumerators work out of their home and in the field. In addition to respondent interviewing, they make crop counts in designated fields and must also read aerial photographs and grid acreage. State office enumerators conduct telephone interviewing, prepare survey materials, and may process lab samples collected by field enumerators.

BLS utilizes three basic categories of interviewers in the collection of its programs - federal employees, state employees, and private sector employees. The federal employees are hired by the regional offices and include economists, a few statisticians, and a large number of part-time economics assistants. Federal employees are used for the collection of wage and price data from businesses, with most of the Consumer Price Index collection conducted by the economic assistants who work primarily from home. The voluntary data collections are conducted by personal visit, telephone, or mail.

The state employees are hired by the states and funded through BLS grants. The Data collection centers under contract to BLS also hire interviewers. State employees and data collection center employees are normally involved in telephone and written contact with respondents in support of the employment related surveys of the Bureau. This includes nonresponse prompting, solicitation of new respondents, and establishment of routine reporting of data by mail, touchtone data entry (TDE), CATI, Voice Recognition, and electronic data interchange (EDI) technologies. In all of these programs, there is a significant element of statistical work at the first contact with a respondent. This may include definition of the eligible universe of units, products, jobs, and so forth, followed by a probability selection to determine the particular items for which data will be collected.

2. Current Interviewer Training Design, Development, and Delivery

Design and Development. In the Census Bureau, design and development of interviewer training has been a one-step operation performed by Census Bureau headquarters employees. The training outline is based on planning meetings and discussions between subject matter experts, instrument authors, field division statisticians, and mathematical statisticians from Census Bureau's quality assurance and

evaluation units. Representatives from the agencies sponsoring surveys conducted by the Census Bureau play a major role in determining what interviewers should know about the survey subject matter (referred to as “concepts training”); how interview questions should be worded; and the order in which they are to appear in the questionnaire or survey instrument.

The actual writing or development of the interviewer training packages is performed, in most cases, by headquarters statisticians and by training specialists located in Census Bureau field operations. Some writing focused on training is developed by statisticians and subject matter experts in other Census Bureau divisions. Training is generally developed in two formats: self- study and classroom.

In NASS, interviewer training is conducted in conjunction with most surveys. For both general and survey-specific training, NASS uses state or regional workshops, individual supervisory groups, one-on-one sessions, and home study (similar to Census Bureau self study). Training workshops are designed to provide the interviewer with background information about the survey and its purpose and to familiarize the enumerator with survey materials and procedures. To work a particular survey the enumerator must participate in the training provided for that survey. Limited exceptions based on unusual circumstances may be allowed.

BLS also conducts a multi-faceted training program. Each program liaison function within the national Office of Field Operations contains a training group with responsibility for the development and maintenance of an effective training program for its surveys. Regional BLS staff, supported nationally, also have particular responsibilities for training state staff as states do not maintain training functions for BLS programs. BLS has established curricula and, in a number of cases, specific "certification" training requirements for interviewers both as they begin their duties and as a continuing education process. These generally include classroom training, study of materials, on-the-job training, observations, specific evaluation of live work, with follow-up and advanced work. BLS also utilizes a significant amount of private vendor training in the regions to support general systems applications such as word processing and spreadsheets. These are directed primarily by regional management based on need.

Training Review. Review of training materials cuts across the organization at all three agencies. The review involves those designing the training, the sponsor of the survey whether an internal or external organization, and those who will conduct the training. For all three organizations, this review involves both headquarters and field staffs. The review addresses both content and presentation of training.

Testing the Training Package. Many training programs, particularly those that involve the execution of a new survey or major changes in the design of an existing survey, are tested with a “dry run.” A dry run is one in which classroom training is executed as originally designed. Depending on the comments made by the dry run participants (interviewers, survey sponsor, trainer, etc.) the final training package may require major revision; however, in most cases, only minor revisions are needed. The dry run may also discover changes needed in the final production instrument.

Training Delivery. The delivery of interviewer training is performed by regional and telephone center supervisors for the Census Bureau. Verbatim training guides are provided to the survey supervisor who

serves as trainer and are read from during classroom training. Self studies are also generally paper-based although there are some computer-based training (CBT) applications as well as both audio and video training tapes. Only one office within the regional office/ telephone center network has a dedicated trainer.

Interviewer training within NASS is performed by Headquarters and field office personnel and NASDA Supervisors. Enumerator practice exercises are used extensively. Home study prior to structured training is also routinely used. Home study quizzes are used as a means to ensure that pre-workshop study on important items was accomplished.

Interviewer training in BLS also utilizes a variety of techniques, including formal classroom training, CBT, and individual exercise and self-study work. Formal training of direct BLS staff is generally delivered by headquarters personnel while both national and regional personnel have a large role in training of state staff working under BLS grants. In addition, BLS maintains a formal mentoring program by regional personnel in the compensation collection activity. Regional supervisors are responsible for ensuring that pre-course materials are completed prior to sending their staff to training courses and for identifying particular training needs of employees beyond the standard curriculum. In particular, regional supervisors and administrative officers are responsible for primary delivery of information related to confidentiality and administrative procedures when interviewers are hired.

3. Interviewer Training Content

The specific content of interviewer training often depends on the level of project funding. However, initial training for Census Bureau interviewers who conduct demographic surveys generally follows the CPS model, shown in Figures 2 and 3 below. The exact amount of time allotted for each exercise may differ for each survey. Figure 2 describes the four CAPI components for CPS: pre-classroom generic self-study, pre-classroom survey-specific self-study, classroom training, and post-classroom practice interviews. Figure 3 describes the three CATI components also for CPS: generic CATI introduction, pre-classroom survey-specific self-study, and classroom training.

The Census Bureau assigns a laptop to a new field representative at the time of initial hire, before training and interviewing commence. Since training packages include video tapes as well as audio tapes, the interviewer must have access to the equipment on which these run. If the interviewer does not own the necessary equipment, the Census Bureau reimburses the interviewer for rentals.

Training videos and written materials comprise the interviewer's self study. The General Interviewing Skills and Techniques (GIST) video is used to introduce new interviewers to the basic practices of quality interviewing. The video covers six major themes. These include: sampling, knowledge of the survey, confidentiality, interviewer bias, adherence to question order and wording, non-directive probing, and techniques for interviewing reluctant respondents. Interviewers are taught how cases are selected by sampling and why assignments cannot be substituted for neighboring units. The video also teaches about the Census Bureau authorizing legislation, Title 13, and sworn oaths to emphasize confidentiality. A large part of the video is devoted to interviewer behaviors that may introduce bias.

Interviewers are trained to avoid these biases by using neutral, non-directive probes that do not lead respondents. To emphasize the consequence of rephrasing questions, the video includes a methodological experiment showing how slightly different question wordings can result in large answer differences. Techniques on how to avoid refusals are covered both in the video and again in the classroom. A new refusal avoidance workshop, using role-plays and interactive skill modeling, is being implemented for telephone center interviewing training.

For CAPI or CATI surveys, classroom training takes place in decentralized locations. This enables interviewers to go through the survey on an instrument designed for training purposes only. When the resulting production instrument contrasts sharply with the training instrument, headquarters survey liaisons prepare and distribute a memorandum identifying the changes that need to be brought to the attention of the interviewer.

NASS uses the same training components, mentioned above, that the Census Bureau does. When an interviewer is first hired, training is provided in interviewing skills and survey and administrative procedures. Interviewing skills address the task of gaining respondent cooperation, converting refusals, interview and call-back procedures, and explanation of the mandatory respondent burden statement. Survey procedures include requirements for maintaining respondent confidentiality, supervision and quality control procedures; administrative topics dealt with include procedures for completing time-mileage-expense sheets, ethical behavior, compensation, promotion and award procedures, survey evaluations, safety, and grievance procedures. Interviewer training for specific surveys covers survey purpose, data collection procedures (including reading aerial photographs), locating survey respondents, deciding who to interview, laying out objective yield plots (and plant and fruit counts), need for explanatory notes, and multiple-survey coordination. Telephone interviewers are instructed in general computer skills and in the use of computer-assisted survey interviewing software.

BLS training contains elements of both the Census Bureau and the NASS approaches. Direct employee training is centralized while state employee training is geographically dispersed. Most training is delivered on a program-specific basis. Personnel working on the Consumer Price Index (CPI), for example, receive training primarily related to CPI concepts, procedures, technologies, and outputs while those working on other programs receive the training related to those programs. The usual situation would be a set of training activities directed to newer employees followed by a series of advanced courses — directed to more experienced employees — addressing cases of greater complexity or nuance. Various statistical techniques, such as probability selections on site with respondents, are generally taught in their program-specific configuration, although they are clearly generic techniques. For example, the Producer Price Index personnel would be trained on product probability selection called "disaggregation" while the National Compensation survey personnel would be trained on a similar activity called "probability selection of occupations."

There is a set of common issues (e.g., interviewing techniques) which are covered in all BLS programs rather than in a separate course. Regional full-time personnel are often rotated for brief periods through the regional economic analysis and information units to ensure applied familiarity with the full range of BLS programs and data outputs. This activity specifically supports the effort to obtain voluntary cooperation of respondents through cross-product marketing of BLS and to teach respondents how to readily obtain BLS data.

All employees utilize computers in their work. For employees in some programs, laptops or penpads are the primary tool for data acquisition. The program-specific applications of these technologies are generally taught in program-specific courses. Training of regional and state staff on general computer

applications such as spreadsheets and word processing is normally accomplished by a combination of on-the-job training, mentoring, and vendor-specific training obtained commercially.

4. Interviewer Training Evaluation

At the Census Bureau, interviewers evaluate their training at the conclusion of formal training sessions. Late in 1996, the Census Bureau conducted a comprehensive evaluation of interviewer training. Over 500 interviewers and senior interviewers participated in an attitudinal survey which focused on interviewer training for a computer-assisted data collection environment. Results from this survey note that most interviewers rate automated training as “excellent” or “good” on such topics as: gaining respondent cooperation, learning survey concepts and definitions, communicating the survey’s purpose, and answering respondents' questions. Interviewers felt somewhat less favorable about training on the topics of converting refusals, interviewing by telephone, and following skip patterns. Overall, approximately 90 percent of the interviewers who responded to the survey said they felt “thoroughly” or “adequately” prepared by the training they had received. This evaluation tool has been standardized for routine implementation.

Written training evaluations are also used within NASS. NASDA enumerators complete an evaluation after each workshop. Survey statisticians complete evaluations after each major survey that encompass the entire survey process, including training issues.

In BLS, training evaluations are completed by trainees after formal courses. These address issues of both content and presentation. Periodically, taskforces composed of both regional and headquarters employees are formed to review and refine training and "certification" requirements for the various BLS programs. BLS field representatives in most programs complete end-of-survey reports which, in part, evaluate the success of training efforts in addressing individual survey issues. These often include specific recommendations for future training content.

5. Quality Assurance as a Tool to Identify Interviewer Training Needs

Observation of Field and Telephone Interviewing. In the Census Bureau, field observation is one of the methods used by the supervisor to check and improve performance of the field representative staff. It provides a uniform method for assessing the FRs' attitudes toward the job, use of the computer, and evaluating the FRs' ability to apply concepts and procedures during actual work situations. There are three categories of observations -- initial, general performance review, and special needs. Information from these observations is used to provide feedback to the FRs.

In NASS, NASDA supervisory enumerators are responsible for carrying out a quality assurance check on major surveys and periodic checks on other surveys. This two-phased evaluation may point out deficiencies in questionnaires, instructions, training, supervision, equipment, or other problems in which corrective action should be taken before the next survey. The NASDA supervisor is responsible for providing guidance to enumerators on how to improve. This guidance will come in many forms, but should include information on new developments in NASS, instruction on survey techniques, coaching,

and suggestions for improvement. Additionally, supervisory enumerators complete a “NASDA Enumerator Evaluation” form for each enumerator following all major surveys. This provides input for addressing interviewer performance issues that have broad implications in formal training.

BLS uses observational interviews to deal with the substantive content of the collection and with interview techniques, including presentation and ability to obtain voluntary cooperation by effective explanation of the program and its applications. The observers are generally regional supervisors and senior field staff. Upon entering duty, field personnel normally observe an experienced field representative collecting data, followed by a reversal of roles in later interviews when the experienced person observes the less experienced individual — leading to collection "certification." After the initial training phases, observational interviews are normally conducted periodically for all collection staff. Feedback and retraining are the primary purposes for the observational program.

Telephone monitoring is used to identify quality problems for CATI work. In all three agencies, interviewers can be monitored at any time. However, they are usually monitored during about 2.5 percent of their log-in time. Interviewers are monitored by survey and telephone center supervisors who, in remote offices, hear the actual interview and see what data are being recorded. Feedback is given to the employee immediately.

Role of Reinterviews. A reinterview is the process of conducting for a second time a previous interview using a different interviewer (usually a senior field representative or survey supervisor). The reinterview process identifies potential falsification in reporting, problems in the instrument design that need to be corrected to assure quality data, and problem areas requiring additional interviewer training and development, such as lack of understanding of specific survey concepts.

Sometimes the reinterview is not a repeat of the original questions but rather a cognitive reinterview using different questions and probing techniques. Generally this is a face-to-face reinterview of a previously conducted face-to-face or telephone interview. The original respondent is recontacted and asked a portion of the questions on the original interview, questions concerning how survey responses were formulated, and questions about the survey process in general. The cognitive reinterview process points out problems similar to those identified in a repeat of the original interview. These problems may identify needs for additional interviewer training and development.

BLS conducts reinterviews as part of its quality assurance and training regime. These take various forms in the different BLS programs, but an example of the strategy used would be the reinterview program of the National Compensation Survey. As collected schedules for this program are uploaded from the laptops by field staff onto the central national database, a probability sample of them is selected and routed to the reinterview staff at headquarters. Then, within each sampled schedule, a probability sample of detailed data items is selected and respondents are reinterviewed, normally by telephone. Results are reviewed on a schedule and item basis by the headquarters reinterviewer and the collecting field economist as an informal training mechanism. Results are also categorized and tabulated into Pareto charts for broader error pattern analysis (by management and staff) and as a guide to targeting training efforts in the program.

Use of Quality Control Procedures. Many BLS programs contain a structured statistical quality analysis component related to incoming data. These vary considerably in sophistication and content, from small sample reviews of SIC coding done by states to relatively sophisticated Pareto analysis of error patterns of probability-sampled incoming data in the Price and Compensation programs of the Bureau. The objectives of these efforts are to identify "conformance to specification" error patterns and to discern whether error sources may be for individual reports or more general in nature. If they are individual, then targeted training programs directed toward individual interviewers are conducted. When errors are not highly correlated with individuals but are rather systemic or random, clarification or alteration in program-wide training, procedures, or approaches is implied. Normally in these structured quality analysis programs, there are different sampling ratios for incoming work of individuals with lower error rates than for those with higher error rates.

The BLS compensation program contains a "calibration" component which is simultaneously a training and quality improvement device. Calibration exercises essentially involve small groups of field staff who work on case studies in data collection. The case studies may be either constructed or live data cases. The objective of the exercise is to generate discussion of the precise handling of a given fact-set under the concepts and procedures of the program involved, to elucidate any differences in the group in how the given facts should be handled, and to lead to action items for training and program decision-making on differences that may remain unresolved or unclear. Calibration exercises are conducted by both headquarters and regional staff and may be either relatively general or targeted to particular collection issues.

6. Interviewer Training Issues

The introduction of computer-assisted interviewing requires that the interviewer be trained in the use of the technology. This is a new training cost, but not a necessary component of all survey training since this knowledge generally carries over from one application to the next. However, within each application the interviewer needs to learn how to proceed through the instrument. This new component is included as part of the survey-specific training.

Survey managers are concerned about the increase in the cost of interviewer training. Interviewer training for the regional office staff involves travel by both the interviewer and instructor. Other components of training costs include the cost of reproducing and distributing thousands of documents and the often hidden management review costs (i.e., the time spent by headquarters and regional managers reviewing and commenting upon preliminary training materials). Training costs are also driven by interviewer turnover.

One solution to the spiraling costs of training development and delivery might be the use of advanced training technologies such as CBT, CD-ROM, and distance learning. However, these training techniques present additional technical and cost requirements. For example, multi-media training involves the purchase of additional peripheral equipment such as compact disc players.

7. The Future of Interviewer Training

Generally, any major change in interviewer training will provide for three items: basic interviewing skills mastery, quick adjustments to technological and operational changes, and simultaneously training many interviewers in a cost-effective manner. An administrative information system that has information on interviewer performance could provide direction for training design and modification. This would allow linkage between performance and training.

NASS has entered into a cooperative agreement with the University of Michigan to assist in the development of improved interviewing methodology. The focus of this agreement will be to identify methodology that reduces interviewing and data collection errors, thus improving data quality. The agreement involves the study of alternative interviewer training regimens across survey organizations, with emphasis on techniques to improve the rate of participation among sample units and improve the quality of survey responses. The University of Michigan will construct a set of alternative procedures for training interviewers in methods to reduce survey nonresponse and measurement error.

Similarly, the Census Bureau engages the services of Syracuse University's School of Education — Instructional Design, Development, and Evaluation Program. The contract provides a comprehensive evaluation of interviewer training, using the Current Population Survey's CATI and CAPI training programs as the evaluation focus. Current plans require that training design and content, training delivery, and an assessment of interviewer knowledge, skills, and abilities obtained through formal and on-the-job training be addressed.