include more than four or five case studies in a single study (Yin, 2014). This number should provide ample opportunity to identify themes of the cases as well as conduct cross-case theme analysis. Wolcott (2008a) has recommended that any case over 1 dilutes the level of detail that a researcher can provide.

Forms of Data

New forms of qualitative data continually emerge in the literature (see Creswell, 2012; Merriam & Tisdell, 2015; Warren & Xavia Karner, 2015), but all forms might be grouped into four basic types of information: interviews (ranging from one-on-one, in person interactions to group, web-based interactions), observations (ranging from nonparticipant to participant), documents (ranging from private to public), and audiovisual materials (ranging from photographs to participant-created artifacts). Over the years, a compendium with an evolving list of data types, as shown in Figure 7.3.

We organize the list into the four basic types, although some forms may not be easily placed into one category or the other. In recent years, new forms of data have emerged, such as journaling in narrative story writing, using e-mail messages, and observing through examining videos and photographs. Particularly noteworthy have been the emergence of procedures for qualitative research using visual, sound, and digital methods (Bauer & Gaskell, 2007; Mitchell, 2011). Common formats of computer-mediated data collection for qualitative research include virtual focus groups and web-based interviews via e-mail or text-based chat rooms, weblogs and life journals (such as open-ended diaries online), Internet message boards, and social media (Halfpenny & Procter, 2015; Markham & Baym, 2009; Warren & Xavia Karner, 2015). Some ethnographic researchers have conducted advanced qualitative studies online, collecting data through e-mail, chat room interactions, instant messaging, videoconferencing, and the images and sound of the websites (Garcia, Standlee, Bechkoff, & Cui, 2009). Qualitative data collection via web-based platforms has the advantages of cost and time efficiency in terms of reduced costs for travel and data transcription. It also provides participants with time and space flexibility that allows them more time to consider and respond to requests for information. Thus, they can provide a deeper reflection on the discussed topics and help to create a nonthreatening and comfortable environment, providing greater ease for participants discussing sensitive issues (Nicholas et al., 2010). More importantly, online data collection offers an alternative for hard-to-reach groups (due to practical constraints, disability, or language or communication barriers) who may be marginalized from qualitative research (James & Busher, 2009).

There are, however, increased ethical concerns with online data collection, such as participants' privacy protection, new power differentials, ownership of the data, authenticity, and trust in the data collected (James & Busher, 2009; Marshall & Rossman, 2015; Nicholas et al., 2010). This is particularly noteworthy when working with children such as the ethnographic study conducted by Jachyra, Atkinson, and Washiya (2015) with adolescent boys using social media. Moreover, web-based research brings new requirements to both participants and researchers. For instance, participants are

required to have some technical skills, access to the Internet, and necessary reading and writing proficiency. In using online information, researchers have to adapt to a new way of observation by watching texts on a screen, by strengthening their skills in interpreting textual data, and in improving online interview skills (Garcia et al., 2009; Nicholas et al., 2010).

Despite problems in innovative data collection such as these, we encourage individuals designing qualitative projects to include new and creative data collection methods that will encourage readers and editors to examine their studies. An illustrative example by van der Hoorn (2015) uses an arts-based research method (musical improvisation on a xylophone and/or glockenspiel) to access the participant's perception of their experience of managing a project. A follow-up interview asks participants to explain their improvisation and thus accessing their experience. Researchers need to consider visual ethnography (Marion & Crowder, 2013; Pink, 2001) or the possibilities of narrative research to include living stories, metaphorical visual narratives, and digital archives (see Clandinin, 2007). We like the technique of "photo elicitation" in which participants are shown pictures (their own or those taken by the researcher) and asked by the inquirer to discuss the contents of the pictures as in photovoice. Guell and Ogilvie (2015), for example, collected over 500 photos of pictures of commuting work journey from 19 participants in Cambridge, England.

The particular approach to research often directs a qualitative researcher's attention toward preferred approaches to data collection, although these preferred approaches cannot be seen as rigid guidelines. For a narrative study, Czarniawska (2004) mentions three ways to collect data for stories: recording spontaneous incidents of storytelling, eliciting stories through interviews, and asking for stories through such mediums as the Internet. Clandinin and Connelly (2000) suggest collecting field texts through a wide array of sources—autobiographies, journals, researcher field notes, letters, conversations, interviews, stories of families, documents, photographs, and personal–family–social artifacts. The conflicting stories of Ai Mei's ethnic identity were generated personal observations, interviews, field notes, and attendance at events (Chan, 2010; see Appendix B). For a phenomenological study, the process of collecting information involves primarily in-depth interviews (e.g., the discussion about the long interview in McCracken, 1988) with as many as 10 individuals. The important point is to describe the meaning of the phenomenon for a small number of individuals who have experienced it. Often multiple interviews are conducted with the each of the research participants. This was the case for Anderson & Spencer (2002; see Appendix C) whose phenomenological study examined the "cognitive representations or images" of AIDS by patients involved 58 interviews conducted over 18 months. Besides interviewing and self-reflection, Polkinghorne (1989) advocates gathering information from depictions of the experience outside the context of the research projects, such as descriptions drawn from novelists, poets, painters, and choreographers. We recommend Lauterbach (1993), the study of wished-for babies from mothers, as an especially rich example of phenomenological research using diverse forms of data collection.

Interviews play a central role in the data collection in a grounded theory study. In one study, each interview with 33 academic chairpersons lasted approximately an hour

(Creswell & Brown, 1992). Other data forms besides interviewing, such as participant observation, researcher reflection or journaling (memoing), participant journaling, and focus groups, may be used to help develop the theory (Birks & Mills, 2015; Corbin & Strauss, 2015). Adolph, Kruchten, and Hall (2012) drew on interviews, participant observation, and documents to explain the process of software development. However, in our experience, these multiple data forms often play a secondary role to interviewing in grounded theory studies. In an ethnographic study, the investigator collects descriptions of behavior through observations, interviews, documents, and artifacts (Atkinson, 2015; Fetterman, 2010; Spradley, 1980), although observing and interviewing appear to be the most popular forms of ethnographic data collection. A detailed description of the core values of the straight edge (sXe) movement was generated from participating in the movement for 14 years and attending more than 250 music shows, interviewing 28 men and women, and gathering documents from sources such as newspaper stories, music lyrics, World Wide Web pages, and sXe magazines (Haenfler, 2004). Ethnography has the distinction among the five approaches, we believe, of advocating the use of quantitative surveys and tests and measures as part of data collection. For example, examine the wide array of forms of data in ethnography as advanced by LeCompte and Schensul (1999). They reviewed ethnographic data collection techniques of observation, tests and repeated measures, sample surveys, interviews, content analysis of secondary or visual data, elicitation methods, audiovisual information, spatial mapping, and network research.

Like ethnography, case study data collection involves a wide array of procedures as the researcher builds an in-depth picture of the case. We are reminded of the multiple forms of data collection recommended by Yin (2014) in his book about case studies. He referred to six forms: documents, archival records, interviews, direct observation, participant observation, and physical artifacts. To represent the extensive data collection involved in a campus gun incident case study, Asmussen and Creswell (1995) used a matrix of information of the four types of data (interviews, observations, documents, and audiovisual materials) in the columns and the specific forms of information (e.g., students at large, central administration) in the rows. The use of a matrix, which is especially applicable in an information-rich case study, might serve the inquirer equally well in all approaches of inquiry to convey the depth and multiple forms of data collection.

Of the four data collection forms in Figure 7.3, documents and audiovisual materials are typically used to supplement interviews and observations. Yet it is important to recognize the important historical and contextual information generated by a review of existing individual and organizational documents and artefacts (Prior, 2003). Bogdan and Biklen (2006) categorize existing data into three types: personal documents (i.e., individually produced websites, e-mails, blogs), official documents (i.e., organizationally produced websites, handbooks, reports), and popular culture documents (i.e., those that are publicly accessible photographs, magazines). To mitigate many of the challenges of reviewing documents and audiovisual materials, we recommend negotiating access to materials ahead of time, defining clear inclusion or

FIGURE 7.3 • A Compendium of Data Collection Approaches in Qualitative Research

Interviews

- Conduct one-on-one interview in the same room, virtually via web-based or e-mail platforms.
- Conduct a focus group interview in the same room, virtually via web-based or e-mail platforms.

Observations

- Conduct an observation as a participant or as an observer.
- Conduct an observation shifting position from participant to observer (and vice versa).

Documents

- Keep a research journal during the study, or have a participant keep a journal or diary.
- Examine personal documents (e.g., letters, e-mails, private blogs).
- Analyze organizational documents (e.g., reports, strategic plans, charts, medical records).
- Analyze public documents (e.g., official memos, blogs, records, archival information).
- Examine autobiographies and biographies.

Audiovisual Materials

- Have participants take photographs or record videos (i.e., photo elicitation).
- Use video or film in a social situation or an individual.
- Examine photographs or videos.
- Examine website, tweets, Facebook messages.
- Collect sounds (e.g., musical sounds, a child's laughter, car horns honking).
- Gather phone or computer-based messages.
- Examine possessions or ritual objects.

Source: Adapted from Creswell (2016).

exclusion criteria based on the purpose for the data, and allocating adequate time for review and synthesis.

Interviewing and observing deserve special attention because they are frequently used in all five of the approaches to research. Entire books are available on these two topics (e.g., on interviewing: Brinkmann & Kvale, 2015; Rubin & Rubin, 2012; on observing: Angrosino, 2007; Bernard, 2011); thus, we highlight basic procedures that we recommend to prospective interviewers and observers.

Interviewing An interview is considered to be a social interaction based on a conversation (Rubin & Rubin, 2012; Warren & Xavia Karner, 2015). According to Brinkmann and Kvale (2015), an interview is where "knowledge is constructed in the interaction between the interviewer and the interviewee" (p. 4). The qualitative research interview is further

described as "attempts to understand the world from the subjects' point of view, to unfold the meaning of their experience, to uncover their lived world" (p. 3). Who is interviewed and what questions are asked depends on the purpose for the study and research questions guiding the study. Interview questions are often the subquestions in the research study, phrased in a way that interviewees can understand. These might be seen as the core of the ***interview protocol***, bounded on the front end by questions to invite the interviewee to open up and talk and located at the end by questions about "Whom should I talk to in order to learn more?" or comments thanking the participants for their time for the interview. It is not surprising given the complex skills necessary for conducting a good interview, that interviewing is often referred to as a "craft" that is developed through practice (Brinkmann & Kvale, 2015; Rubin & Rubin, 2012).

How the interactions take place depends on the choice of interview type of which there is great variety. A variation for a one-on-one interview is for both the interviewee and interviewer being physically located in the same room, talking face-to-face using technology, or talking over the phone. An alternative to talking is to interact in writing using text messaging or an online chat function. Focus groups are advantageous when the interaction among interviewees will likely yield the best information, when interviewees are similar and cooperative with each other, when time to collect information is limited, and when individuals interviewed one-on-one may be hesitant to provide information (Krueger & Casey, 2014; Morgan, 1997). Krueger and Casey (2014) discuss the use of focus groups on the Internet, including chat room focus groups and bulletin board groups. They discuss how to manage the Internet groups as well as how to develop questions for the groups. Stewart and Williams (2005) reviewed both synchronous (real-time) and asynchronous (non–real-time) applications of online focus groups for social research. They highlighted the advantages of new developments such as virtual reality applications because participants can be questioned over long periods of time, larger numbers can be managed, and more heated and open exchanges occur. Problems arise with online focus groups, such as obtaining complete informed consent, recruiting individuals to participate, and choosing times to convene given different international time zones. It is important to carefully weigh the drawbacks for some types with the benefits of increased access; for example, some forms lack visual communication, and most require individuals who are not hesitant to speak and share ideas or who are technology-savvy (James & Busher, 2009). The less articulate, shy interviewee may present the researcher with a challenge and less than adequate data. Regardless of interview mode, care must be taken to create an environment as comfortable as possible and, in group settings, to encourage all participants to talk and to monitor individuals who may dominate the conversation.

One might view interviewing as a series of steps in a procedure. Several authors have advanced the steps necessary in conducting qualitative interviews, such as Brinkmann and Kvale (2015) and Rubin and Rubin (2012). The Brinkmann and Kvale (2015) seven stages of an interview inquiry report a logical sequence of stages from thematizing the inquiry; to designing the study; to interviewing; to transcribing the interview;

to analyzing the data; to verifying the validity, to reliability, and generalizability of the findings; and finally to reporting the study. The seven steps described by Rubin and Rubin (2012), called the responsive interviewing model, are similar in scope to Brinkmann and Kvale (2015), but they view the sequence as not fixed, allowing the researcher to change questions asked, the sites chosen, and the situations to study. Both approaches to the stages of interviewing sweep across the many phases of research from deciding on a topic to the actual writing of the study. In the approach presented here, we focus on the data collection process in some detail, recognizing that this process is embedded within a larger sequence of research. The procedures for preparing and conducting interviews are summarized in Figure 7.4:

- *Determine the research questions that will be answered by interviews.* These questions are open-ended, general, and focused on understanding your central phenomenon in the study.
- *Identify interviewees who can best answer these questions based on one of the purposeful sampling procedures mentioned in the preceding discussion* (see Table 7.3).
- *Distinguish the type of interview by determining what mode is practical and what interactions will net the most useful information to answer research questions.* We recommend assessing the types available and deciding the best fit for the particular context.
- *Collect data using adequate recording procedures when conducting one-on-one or focus group interviews.* We recommend microphone equipment that is sensitive to the acoustics of the room from its location, such as the use of lapel microphones or headsets. We also recommend using more than one recording device placed at different locations in a group environment.
- *Design and use an interview protocol, or interview guide* (Brinkmann & Kvale, 2015). Use approximately five to seven open-ended questions and ample space between the questions to write responses to the interviewee's comments (see the sample protocol in Figure 7.5).
- *Refine the interview questions and the procedures through pilot testing.* In an ethnography of boat pilots aboard cargo vessels, Sampson (2004) used pilot testing to refine and develop research instruments, assess the degrees of observer bias, frame questions, collect background information, and adapt research procedures. In case study research, Yin (2014) recommends a pilot test to refine data collection plans and develop relevant lines of questions. These pilot cases are selected on the basis of convenience, access, and geographic proximity.
- *Locate a distraction-free place for conducting the interview.* Find, if possible, a physical setting where a private conversation can be held that lends itself to audiotaping.
- *Obtain consent from the interviewee to participate in the study by completing a consent form approved by the human relations review board.* At the beginning of the interview, review the purpose of the study, the amount of time that will be needed to complete the interview, their right to withdraw from the study, and plans for

using the results from the interview (offer a copy of the report or an abstract of it to the interviewee).

- *As an interviewer, follow good interview procedures.* Stay within the study boundaries you have reviewed, use the protocol to guide your questions, complete the interview within the time specified, be respectful and courteous, and offer few questions and advice. This last point is an important reminder of how a good interviewer is a good listener rather than a frequent speaker during an interview.
- *Decide transcription logistics ahead of time.* For example, what will be transcribed if needed? If software will be used, then how will it be checked? Decisions here need to be made about verbal cues and extraneous words and utterances (e.g., "hmms"). Analysis will be limited if you don't include certain things.

Observing Observation is one of the key tools for collecting data in qualitative research. It is the act of noting a phenomenon in the field setting through the five senses of the observer, often with a note-taking instrument, and recording it for scientific purposes (Angrosino, 2007). The observations are based on the research purpose and questions. You

FIGURE 7.4 ● Procedures for Preparing and Conducting Interviews

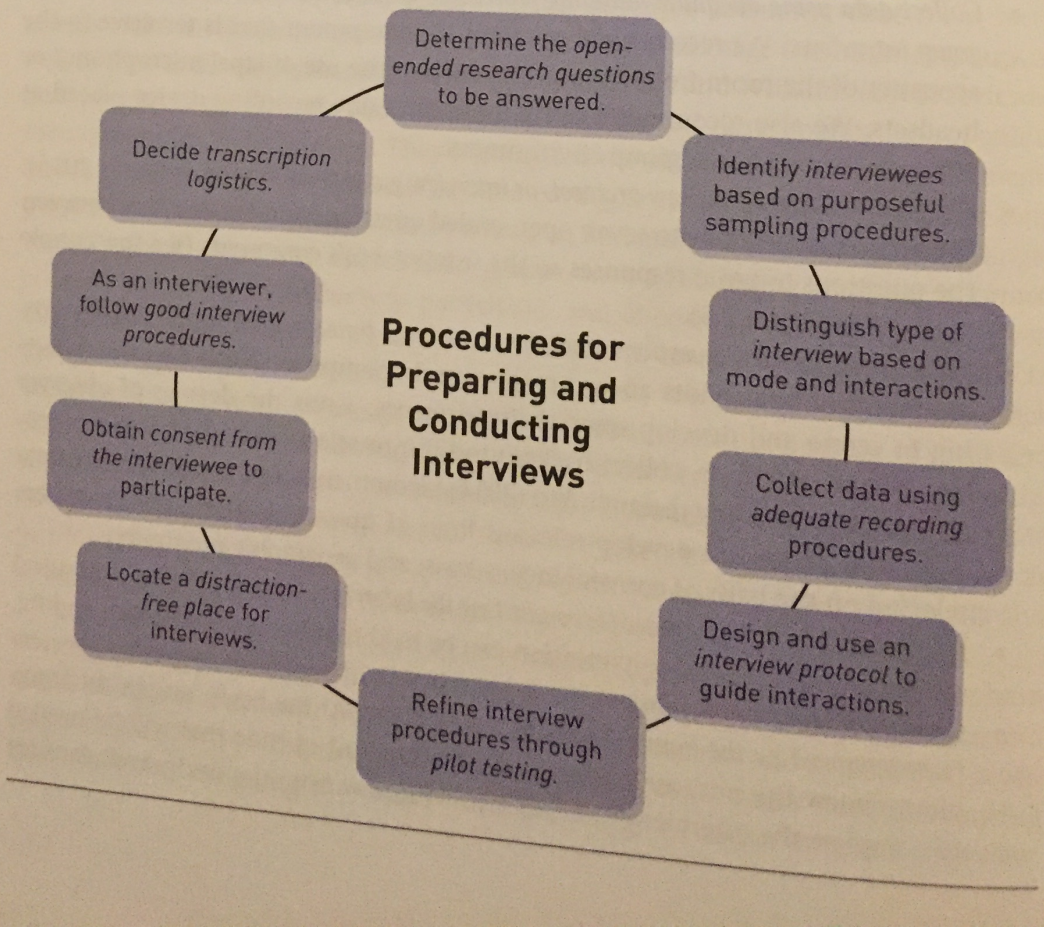

FIGURE 7.5 • Sample Interview Protocol or Guide

Interview Protocol Project: University Reaction to a Terrorist Incident

Time of interview:

Date:

Place:

Interviewer:

Interviewee:

Position of interviewee:

(Briefly describe the project)

Questions:

1. What has been your role in the incident?
2. What has happened since the event that you have been involved in?
3. What has been the impact on the university community of this incident?
4. What larger ramifications, if any, exist from the incident?
5. To whom should we talk to find out more about campus reaction to the incident?

Thank the individual for participating in this interview. Assure him or her of confidentiality of responses and potential future interviews.

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may watch physical setting, participants, activities, interactions, conversations, and your own behaviors during the observation. Use your senses, including sight, sound, touch, smell, and taste. You should realize that writing down everything is impossible. Thus, you may start the observation broadly and then concentrate on research questions. To one degree or another, the observer is usually involved in that which he or she is observing.

The extent to which the observer is engaged in terms of participating and observing is usually distinguished into four observation *types:*

- ***Complete participant.*** The researcher is fully engaged with the people he or she is observing. This may help him or her establish greater rapport with the people being observed (Angrosino, 2007).
- ***Participant as observer.*** The researcher is participating in the activity at the site. The participant role is more salient than the researcher role. This may help the researcher gain insider views and subjective data. However, it may be distracting for the researcher to record data when he or she is integrated into the activity (Bogdewic, 1999).

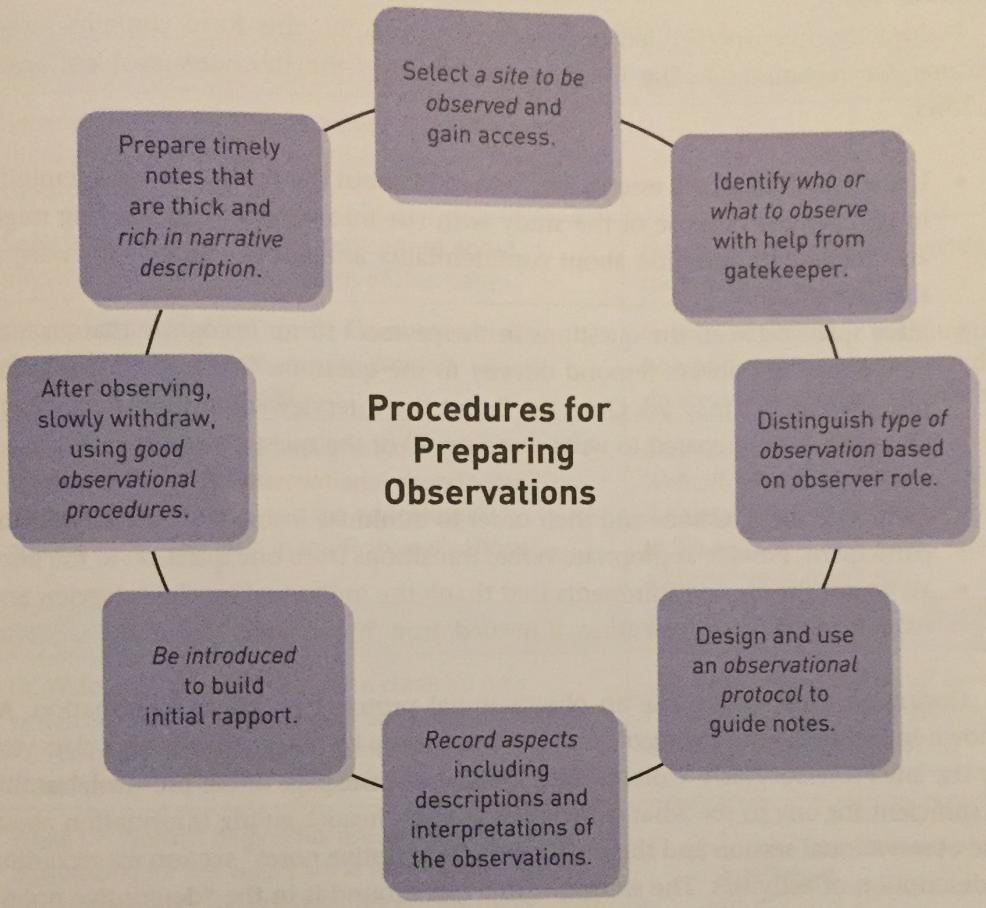
- ***Nonparticipant or observer as participant***. The researcher is an outsider of the group under study, watching and taking field notes from a distance. He or she can record data without direct involvement with activity or people (Bernard, 2011).
- ***Complete observer***. The researcher is neither seen nor noticed by the people under study.

As a good qualitative observer, you may change your role during an observation, such as starting as a nonparticipant and then moving into the participant role, or vice versa. Participant observation, for example, offers possibilities for the researcher on a continuum from being a complete outsider to being a complete insider (Jorgensen, 1989). The approach of changing one's role from that of an outsider to that of an insider through the course of the ethnographic study is well documented in field research (Bernard, 2011; Jorgensen, 1989). Wolcott's (1994) study of the Principal Selection Committee illustrates an outsider perspective, as he observed and recorded events in the process of selecting a principal for a school without becoming an active participant in the committee's conversations and activities.

Observing in a setting is a special skill that requires addressing issues such as the potential deception of the people being interviewed, impression management, and the potential marginality of the researcher in a strange setting (Atkinson, 2015). Like interviewing, we also see observing as a series of procedural steps for preparing and conducting observations summarized in Figure 7.6:

- *Select a site to be observed.* Obtain the required permissions needed to gain access to the site.
- *At the site, identify who or what to observe, when, and for how long.* A gatekeeper helps in this process.
- *Distinguish type of observation based, initially, on a role to be assumed as an observer.* This role can range from that of a complete participant (going native) to that of a complete observer. We especially like the procedure of being an outsider initially, followed by becoming an insider over time.
- *Design and use an* ***observational protocol*** *as a method for recording notes in the field.* Include in this protocol both descriptive and reflective notes (i.e., notes about your experiences, hunches, and learnings). Make sure this is headed by the date, place, and time of observation (Angrosino, 2007).
- *Record aspects such as portraits of the participant, the physical setting, particular events and activities, and your own reactions* (Bogdan & Biklen, 1992). Describe what happened and also reflect on these aspects, including personal reflections, insights, ideas, confusions, hunches, initial interpretations, and breakthroughs.
- *Build initial rapport by having someone introduce you if you are an outsider, being passive and friendly, and starting with limited objectives in the first few sessions of observation.* The early observational sessions may be times in which to take few notes and simply observe.

FIGURE 7.6 • Procedures for Preparing and Conducting Observations



- *As an observer, follow good observational procedures*. After observing, slowly withdraw from the site, thanking the participants and informing them of the use of the data and their accessibility to the study.
- *Prepare timely notes that are thick and rich in narrative description after the observation*. Give full description of the people and events under observation (Emerson, Fretz, & Shaw, 2011).

Recording Procedures

In discussing interviewing and observing procedures, we mention the use of a protocol, a predesigned form used to record information collected during an interview or observation. The interview protocol enables a person to take notes during the interview about the responses of the interviewee. It also helps a researcher organize thoughts on items such as headings, information about starting the interview, concluding ideas,

information on ending the interview, and thanking the respondent. In Figure 7.5, the authors provided the interview protocol used in the gunman case study (Asmussen & Creswell, 1995).

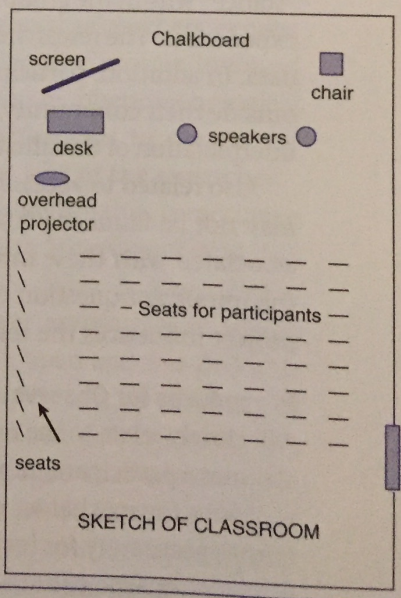
Besides the five open-ended questions in the study, this form contains several features we recommend. The instructions for using the interview protocol are as follows:

- Use a header to record essential information about the project and as a reminder to go over the purpose of the study with the interviewee. This heading might also include information about confidentiality and address aspects included in the consent form.
- Place space between the questions in the protocol form. Recognize that an individual may not always respond directly to the questions being asked. For example, a researcher may ask Question 2, but the interviewee's response may be to Question 4. Be prepared to write notes on all of the questions as the interviewee speaks.
- Memorize the questions and their order to minimize losing eye contact with the participant. Provide appropriate verbal transitions from one question to the next.
- Write out the closing comments that thank the individual for the interview and request follow-up information, if needed, from him or her.

During an observation, use an observational protocol to record information. As shown in Figure 7.7 this protocol contains notes taken by one a student on a class visit by the late Professor Harry Wolcott. We provide only one page of the protocol, but this is sufficient for one to see what it includes. It has a header giving information about the observational session and then includes a "descriptive notes" section for recording a description of activities. The section with a box around it in the "descriptive notes" column indicates the observer's attempt to summarize, in chronological fashion, the flow of activities in the classroom. This can be useful information for developing a chronology of the ways the activities unfolded during the class session. There is also a "reflective notes" section for notes about the process, reflections on activities, and summary conclusions about activities for later theme development. A line down the center of the page divides descriptive notes from reflective notes. A visual sketch of the setting and a label for it provide additional useful information.

Whether a researcher uses an observational or interview protocol, the essential process is recording information or, as Lofland and Lofland (1995) state, "logging data" (p. 66). This process involves recording information through various forms, such as observational field notes, interview write-ups, and documents as well as mapping, census taking, photographing, and sound recording. An informal process may occur in recording information comprising initial "jottings" (Emerson et al., 2011), daily logs or summaries, and descriptive summaries (for examples of field notes, see Marshall & Rossman, 2015; Sanjek, 1990). These forms of recording information are popular in narrative research, ethnographies, and case studies.

FIGURE 7.7 • Sample Observational Protocol

Length of Activity: 90 Minutes	
Descriptive Notes	*Reflective Notes*
General: What are the experiences of graduate students as they learn qualitative research in the classroom?	
See classroom layout and comments about physical setting at the bottom of this page.	*Overhead with details: I wonder if the back of the room was able to read it.*
Approximately 5:17 p.m., Dr. Creswell enters the filled room, introduces Dr. Wolcott. Class members seem relieved.	Overhead projector not plugged in at the beginning of the class: I wonder if this was a distraction (when it took extra time to plug it in).
Dr. Creswell gives brief background of guest, concentrating on his international experiences; features a comment about the educational ethnography "The Man in the Principal's Office."	*Lateness of the arrival of Drs. Creswell and Wolcott: Students seemed a bit anxious. Maybe it had to do with the change in starting time to 5 p.m. (some may have had 6:30 classes or appointments to get to).*
Descriptive Notes	*Reflective Notes*
Dr. Wolcott begins by telling the class he now writes out educational ethnography and highlights this primary occupation by mentioning two books: *Transferring Qualitative Data* and *The Art of Fieldwork.*	*Drs. Creswell and Wolcott seem to have a good rapport between them, judging from many short exchanges that they had.*
While Dr. Wolcott begins his presentation by apologizing for his weary voice (due to talking all day, apparently), Dr. Creswell leaves the classroom to retrieve the guest's overhead transparencies. Seemed to be three parts to this activity: (1) the speaker's challenge to the class of detecting pure ethnographical methodologies, (2) the speaker's presentation of the "tree" that portrays various strategies and substrategies for qualitative research in education, and (3) the relaxed "elder statesman" fielding class questions, primarily about students' potential research projects and prior studies Dr. Wolcott had written.	 SKETCH OF CLASSROOM
The first question was "How do you look at qualitative research?" followed by "How does ethnography fit in?"	

Field Issues

Researchers engaged in studies within all five approaches face issues in the field when gathering data that need to be anticipated. During the past several years, the number of books and articles on field issues has expanded considerably as interpretive frameworks (see Chapter 2) have been widely discussed. Beginning researchers are often overwhelmed by the amount of time needed to collect qualitative data and the richness of the data encountered. As a practical recommendation, we suggest that beginners start with limited data collection and engage in a pilot project to gain some initial experiences (Sampson, 2004). This limited data collection might consist of one or two interviews or observations so that researchers can estimate the time needed to collect data.

One way to think about and anticipate the types of issues that may arise during data collection is to view the issues as they relate to several aspects of data collection, such as entry and organizational access, procedures for observations, dynamics between interviewer and interviewee, and availability of documents and audiovisual materials.

Entry and Organizational Access Gaining access to organizations, sites, and individuals to study has its own challenges. Convincing individuals to participate in the study, building trust and credibility at the field site, and getting people from a site to respond are all important access challenges. Factors related to considering the appropriateness of a site need to be considered as well (see Weis & Fine, 2000). For example, researchers may choose a site that is one in which they have a vested interest (e.g., employed at the site, a study of superiors or subordinates at the site) that would limit ability to develop diverse perspectives on coding data or developing themes. A researcher's own particular "stance" within the group may keep him or her from acknowledging all dimensions of the experiences. The researchers may hear or see something uncomfortable when they collect data. In addition, participants may be fearful that their issues will be exposed to people outside their community, and this may make them unwilling to accept the researcher's interpretation of the situation.

Also related to access is the issue of working with an institutional review board that may not be familiar with unstructured interviews in qualitative research and the risks associated with these interviews (Corbin & Morse, 2003). Weis and Fine (2000) raised the important question of whether the response of the institutional review board to a project influences the researcher's telling of the narrative story.

Procedures for Observations The types of challenges experienced during observations will closely relate to the role of the inquirer in observation, such as whether the researcher assumes a participant, nonparticipant, or middle-ground position. There are challenges as well with the mechanics of observing, such as remembering to take field notes, recording quotes accurately for inclusion in field notes, determining the best timing for moving from a nonparticipant to a participant (if this role change is desired), keeping from being overwhelmed at the site with information, and learning how to funnel the observations from the broad picture to a narrower one in time. Participant observation has attracted

several commentaries by writers (Ezeh, 2003; Labaree, 2002). Labaree (2002), who was a participant in an academic senate on a campus, notes the advantages of this role but also discusses the dilemmas of entering the field, disclosing oneself to the participants, sharing relationships with other individuals, and attempting to disengage from the site. Ezeh (2003), a Nigerian, studied the Orring, a little-known minority ethnic group in Nigeria. Although his initial contact with the group was supportive, the more the researcher became integrated into the host community, the more he experienced human relations problems, such as being accused of spying, pressured to be more generous in his material gifts, and suspected of trysts with women. Ezeh concluded that being of the same nationality was no guarantee of a lack of challenges at the site.

Dynamics Between Interviewer and Interviewee Challenges in qualitative interviewing often focus on the mechanics of conducting the interview. Roulston, deMarrais, and Lewis (2003) chronicle the challenges in interviewing by postgraduate students during a 15-day intensive course. These challenges related to unexpected participant behaviors and students' ability to create good instructions, phrase and negotiate questions, deal with sensitive issues, and develop transcriptions. Suoninen and Jokinen (2005), from the field of social work, ask whether the phrasing of our interview questions leads to subtle persuasive questions, responses, or explanations.

Undoubtedly, conducting interviews is taxing, especially for inexperienced researchers engaged in studies that require extensive interviewing, such as phenomenology, grounded theory, and case study research. Equipment issues loom large as a problem in interviewing, and both recording and transcribing equipment need to be organized in advance of the interview. The process of questioning during an interview (e.g., saying little, handling emotional outbursts, using icebreakers) includes problems that an interviewer must address. Many inexperienced researchers express surprise at the difficulty of conducting interviews and the lengthy process involved in transcribing audiotapes from the interviews. In addition, in phenomenological interviews, asking appropriate questions and relying on participants to discuss the meaning of their experiences require patience and skill on the part of the researcher.

Recent discussions about qualitative interviewing highlight the importance of reflecting about the relationship that exists between the interviewer and the interviewee (Brinkmann & Kvale, 2015; Nunkoosing, 2005; Weis & Fine, 2000). Brinkmann and Kvale (2015), for example, discuss the power asymmetry in which the research interview should not be regarded as a completely open and free dialogue between egalitarian partners. Instead, the nature of an interview sets up an unequal power dynamic between the interviewer and the interviewee. In this dynamic, the interview is "ruled" by the interviewer. The interview is dialogue that is conducted one-way, provides information for the researcher, is based on the researcher's agenda, leads to the researcher's interpretations, and contains "counter control" elements by the interviewee who withholds information. To correct for this asymmetry, Brinkmann and Kvale (2015) suggest more collaborative interviewing, where the researcher and the participant approach equality in questioning, interpreting, and reporting.

An extension to the discussion is provided by the reflections of Nunkoosing (2005) on the problems of power and resistance, distinguishing truth from authenticity, the impossibility of consent, and projection of the interviewers' own self (their status, race, culture, and gender). Weis and Fine (2000) raise additional questions for consideration: Are your interviewees able to articulate the forces that interrupt, suppress, or oppress them? Do they erase their history, approaches, and cultural identity? Do they choose not to expose their history or go on record about the difficult aspects of their lives? These questions and the points raised about the nature of the interviewer–interviewee relationship cannot be easily answered with pragmatic decisions that encompass all interview situations. They do, however, sensitize us to important challenges in qualitative interviewing that need to be anticipated.

A final issue is whether the researcher shares personal experiences with participants in an interview setting such as in a case study, a phenomenology, or an ethnography. This sharing minimizes the "bracketing" that is essential to construct the meaning of participants in a phenomenology and reduces information shared by participants in case studies and ethnographies.

Availability of Documents and Audiovisual Materials In document research, many issues involve locating materials, often at sites far away or assessing how publically these materials are, and obtaining permission to use the materials (Marshall & Rossman, 2015). For biographers, the primary form of data collection might be archival research from documents; some of these may be online. The increasing use and evolving forms of data generated by Internet-based technologies continue to raise important ethical considerations (Davidson & di Gregorio, 2011).

When researchers ask participants in a study to keep journals or to create audiovisual materials and documents during the process of research, additional field issues emerge. Journaling is a popular data collection process in case studies and narrative research. What instructions should be given to individuals prior to writing in their journals? Are all participants equally comfortable with journaling? Is it appropriate, for example, with small children who express themselves well verbally but have limited writing skills? The researcher also may have difficulty reading the handwriting of participants who journal. Recording on videotape raises issues for the qualitative researcher such as keeping disturbing room sounds to a minimum, deciding on the best location for the camera, and determining whether to provide close-up shots or distant shots.

Data Storage and Security We are surprised at how little attention is given in books and articles to managing data storage of qualitative data. The approach to storage will reflect the type of information collected, which varies by approach to inquiry. In writing a narrative life history, the researcher needs to develop a filing system for the "wad of handwritten notes or a tape" (Plummer, 1983, p. 98)—and more recently to digital recordings and files. Davidson's (1996) suggestion about backing up information collected and noting changes made to the database is sound advice for all types of research studies. With extensive use of computers in qualitative research,

more attention will likely be given to how qualitative data are organized and stored, whether the data are field notes, transcripts, or rough jottings. With extremely large databases being used by some qualitative researchers, this aspect assumes major importance. In his discussion of data management, Lambert (2015) highlights the vast data available through the Understanding Society survey in the United Kingdom that were unwieldy without the use of digital-based storage methods. Specifically, he describes the data set as "involving repeated extended interviews with more than a hundred thousand responses, collecting detailed and extensive health and social information . . . . [and as] one of several major government sponsored surveys of a similar scale" (Lambert, 2015, p. 105). Lambert concludes that the key challenges for e-research platforms is for researchers to employ new methods of data management in qualitative research that facilitate access and whose analysis has strong potential for societal implications.

Some principles about data storage and handling that are especially well suited for qualitative research include the following:

- Always develop backup copies of computer files (Davidson, 1996).
- Use high-quality tapes or recording devices for audio recording information during interviews. Also, make sure that the size of the tapes fits the transcriber's machine.
- Develop a master list of types of information gathered.
- Protect the anonymity of participants by masking their names in the data, and if a master list is needed, be sure to store it separately.
- Develop a data collection matrix as a visual means of locating and identifying information for a study.