



Generating Data

In: Digital Tools for Qualitative Research

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Pub. Date: 2015

Access Date: May 23, 2020

Publishing Company: SAGE Publications Ltd

City: London

Print ISBN: 9781446256077

Online ISBN: 9781473957671

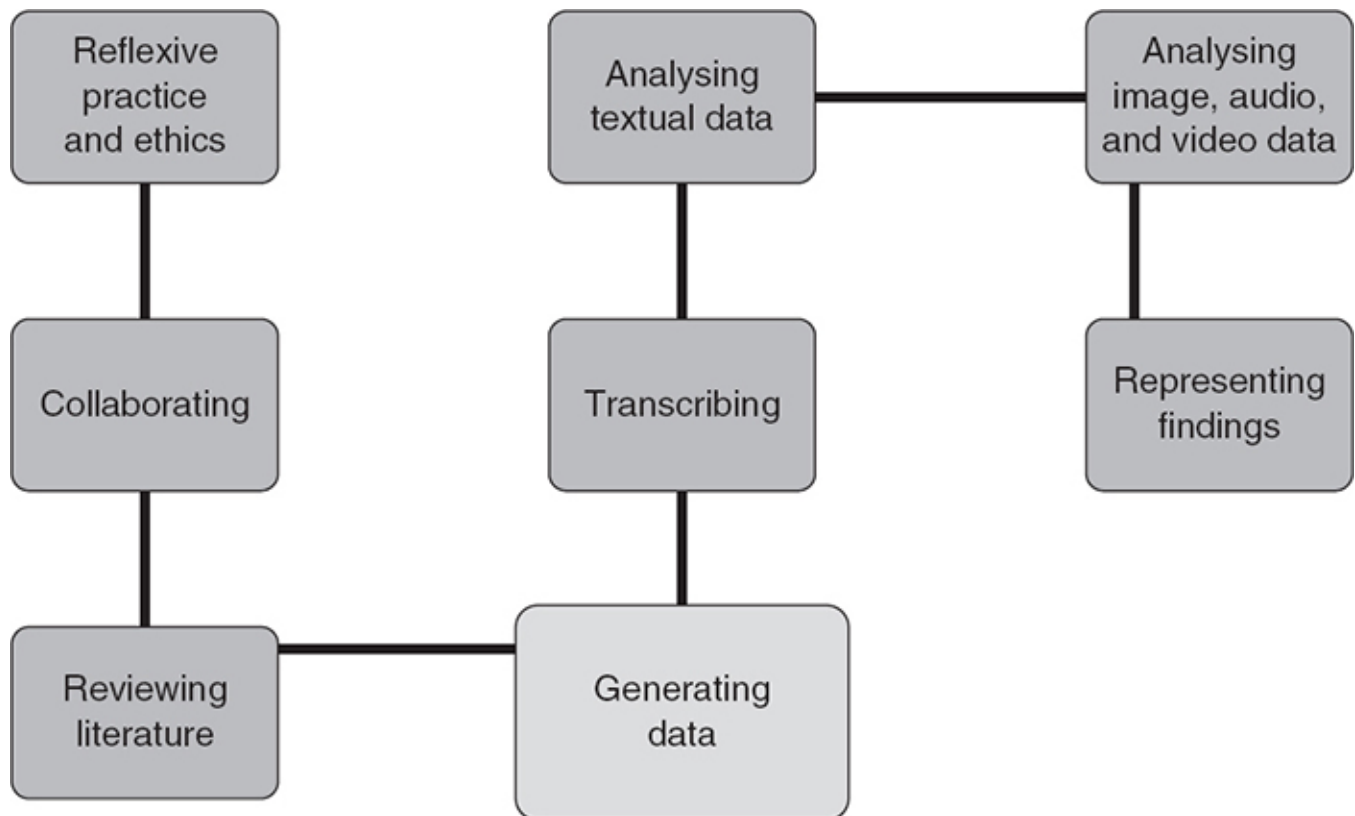
DOI: <https://dx.doi.org/10.4135/9781473957671>

Print pages: 69-92

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Generating Data



Learning Objectives

- Articulate the differences between naturally occurring and researcher-generated data.
- Select and critique appropriate digital tools for generating field notes, recording conversations or interview data, exploring online communities and archives, and generating images.
- Have strategies to ensure ethical practices in generating data.

Introduction

In [Chapter 4](#), we considered the ways in which reviewing the literature can be supported with a variety of digital tools. In this chapter, we consider some of the digital tools that have shifted what can be considered qualitative data and the tools that support generating that data. With the emergence of the Internet and other types of computer-mediated communication, new sites of study and ways of engaging with participants have

emerged (Hine, 2008). Further, various digital tools now afford new possibilities for gathering a variety of data types across great distances (Gratton and O'Donnell, 2011). We begin this chapter by differentiating between naturally occurring and researcher-generated data types. We then explore how digital tools can be used to generate both naturally occurring data such as field notes, conversational data, online communities and archives, and researcher-generated data such as interviews and focus groups, walk-alongs and images.

Data Generation Types: Naturally Occurring and Researcher-Generated Data

As you design your research study, you will be faced with a series of decisions about how to (1) define your research problem, (2) situate your work both methodologically and theoretically, and (3) decide what will count as data. Your methodological approach and research questions will shape the type of data collection techniques you choose. Qualitative researchers often use multiple data sources to warrant their claims. Historically, interviews and/or focus groups, observations and document collections have dominated qualitative research practices.

In the social sciences there has generally been more emphasis on collecting researcher-generated data, e.g. interviews, over naturally occurring data, e.g. a family dinner-time conversation (Attenborough and Stokoe, 2012). Digital tools, though, have made it easier to collect the naturally occurring data that can help us understand how people enact and perform their identities and experiences. Sacks (1992) suggested that:

if we are to understand and analyze participants' own concepts and accounts, then we have to find and analyze them not in response to our research questions, but in the places they ordinarily and functionally occur in the activities in which they're employed. (p. 27)

For example, mobile devices make it easier to collect naturally occurring data, such as conversations between friends, in a less obtrusive manner, as more people are already documenting their lives by collecting voice, image and video data on a regular basis.

In contrast, interviews and focus groups are examples of data which would not exist apart from the researcher's involvement (Silverman, 2001). Interviews and focus groups, for instance, entail asking a series of questions and recording participant responses. This type of data in some cases can be collected more quickly and is under the researcher's control. These two categories, however, are not mutually exclusive, as no social interaction would be treated as 'data' without some human intervention. We select what to record in any context that we study.

Generating data involves producing a 'diverse collection of materials that enable you to engage with and think about the specific research problems or questions' (Rapley, 2007, p. 10). Practically, this entails managing and collecting a variety of data sources. Take a moment to respond to the questions posted in [Reflexive Practice 5.1](#).

Reflexive Practice 5.1

What types of data will you collect for the study you are designing? Will they be primarily researcher-generated? Naturally occurring?

Digital Tools for Naturally Occurring Data

We discuss next the ways in which various digital tools can be used with naturally occurring data such as field observations, conversations, online communities and Internet archives of multimedia.

Recording Field Notes

Taking field notes is a well-established data collection method (Spradley, 1980). One of your first choices is how to position yourself: as a complete participant, a complete observer or somewhere in between. This decision will influence how you record your field notes. You may choose, for instance, to write them by hand, make an audio recording or type them on a laptop or mobile device.

To minimize your presence at the site, you will want to use a device that is not distracting to those around you. If you are recording observations in a social space in which mobile devices are an integral part of the environment, you could use one to take notes, perhaps using an application such as Evernote (as discussed in [Chapter 2](#)). In [Vignette 5.1](#), Everett Painter describes his use of mobile devices.

Vignette 5.1 Utilizing Mobile Devices in the Field: Field Notes

Everett Painter, University of Tennessee

The current trend in technology convergence, particularly focused on mobile devices, presents many new options for data collection. During a recent qualitative study I took some of this technology into the field with high expectations. I consider myself somewhat of an 'early adopter' of technology, always looking for ways to incorporate new advances in my work as a counsellor. I was confident these new tools would enhance my fieldwork and research efforts as well.

In an effort to better manage my data, I made the decision to use a tablet (iPad) for note taking and journaling. I quickly learned this was not going to be as smooth as I had imagined. My first attempts were awkward and clumsy. The device was difficult to hold

and type on at the same time. I found my onscreen typing speed to be much slower than writing by hand. Frustrated, I returned to writing my field notes by hand in a notebook, but they turned out messy and difficult to read. I made the commitment to return to the iPad for subsequent observations. With practice and the use of shorthand, my speed increased. Having notes in a digital format was advantageous because they were easier to read and ready to be processed, cutting out the stage of note conversion and thereby saving me a good deal of time. Additionally, in my research setting (a church), the iPad was a more unobtrusive option than a laptop. In hindsight, I should have practised note taking in order to reach a proficient speed before attempting to collect notes in the field.

Thus, it is important to practise your data collection techniques prior to going into the field, and to tailor your use of technology to what will work best for each context.

As you take field notes, it may be useful to map your data set. A global positioning system (GPS) uses satellites to locate a particular position on Earth, and linking this geographical and spatial data to your field notes could allow you to, for example, examine how place and space might be linked to power (Creswell, 2004; Helfenbein and Taylor, 2009). Christensen et al. (2011) illustrated how GPS and mobile phone technologies can be used to generate a deeper understanding of children's everyday movements.

Visit Web Resource 5.1 to read Christensen et al. (2011) – a mixed methods study that used ethnographic fieldwork and global positioning technology.

GPSTracker is a mobile application that allows you to log or record your GPS location at specific time intervals. These time intervals can be displayed with the specific coordinates and/or in a map view. It supports the geotagging of images, which may be useful for building a visual map as part of the field notes.

Visit Web Resource 5.2 to review a list of applications that can support the collection of data using mobile devices.

Turn now to [Reflexive Practice 5.2](#).

Reflexive Practice 5.2

Review Web Resource 5.2 and choose an application (such as GPSTracker) that may be useful for the study you are designing. Download it and begin to learn it. Reflect on your experiences.

Recording Conversations

For certain research approaches such as conversation analysis, you may find it particularly useful to audio- or video-record naturally occurring interactions, such as family mealtime conversations or institutional talk between doctors and patients. Having a recording of the interaction makes it possible for you to 'reexperience' it for analytic purposes (Ashmore and Reed, 2000; Sacks, 1984). Audio or video recording allows you to attend more to the non-verbal interactions and/or interact with the participants during the observation. Nonetheless, as Ochs (1979) suggested, 'the problems of selective observation are not eliminated' (p. 44), as not even a recording device can capture everything that is happening in the environment. Choices must be made as to what, when and where to record.

Investing in quality recording equipment that is well suited for the research environment is an important first step. You must also decide where to place the recording device. When making decisions about the types of equipment to use, as well as where to locate the equipment, it is important to seek the advice of researchers who have conducted similar studies, as is illustrated in [Case Study 5.1](#).

Case Study 5.1 Video-Recording Conversational Data

Angela was planning to conduct a discourse analysis of the classroom talk of primary students. Her participants included 33 children, one teacher and one classroom assistant. She decided to video-record the one-hour maths lessons over the course of three months. She talked with other researchers who had done similar studies and was advised to purchase a refurbished digital video camera with a memory card and a tabletop tripod. From previous observations, Angela knew that the teacher would be doing most of the talking while standing at the front of the room. Thus, she set up the camera on a desk directed towards the front of the room with a wide-angle lens to capture at least some of the children's movements. She also decided to purchase wireless microphones to place throughout the room, in order to capture the responses to the teacher's questions. While she worried about not capturing all of the non-verbal interaction taking place around the room, she felt that her observational notes would suffice. Her biggest challenge would be to match up her observational notes with the video recordings.

The lightweight Dictaphone-style audio recorders marketed by Olympus, Sony, Philips, Panasonic and others have seen constant development and change, making them an ideal technology for recording. Many of the newest audio and video recorders have a greater storage capacity than most researchers will ever need. These devices often have a USB port to transfer data directly onto a password-protected laptop. Some of the latest models have their own password protection and encryption, and some can be used for transcribing notes directly into Microsoft Word via Dragon Dictate (see [Chapter 6](#)).

While many of these devices have built-in microphones, external microphones may still be preferable. If there is important interaction occurring in a particular area (e.g. the front of a classroom or meeting room),

a directional microphone would be appropriate. Boundary microphones are placed in one location and non-selectively capture a wide range of sounds; for soundscape research (discussed in [Chapter 8](#)), this type of microphone might be best. If there is a particular individual whose talk you are focused upon, such as a teacher or facilitator, a lavalier microphone will likely meet your needs. Most microphones are battery powered, so always bring a spare set with you.

Computing devices such as laptops and mobile phones often have built-in video and audio recorders. This allows recording in a less obtrusive way. See [Case Study 5.2](#).

Case Study 5.2 Using a Computer to Record Video Data

Kelli was collecting conversational data between adults with aphasia (a language impairment) and their speech-language therapists. Long before Kelli began her study, the therapists used the video cameras built into their computers to record their therapy sessions so that they could send a DVD of the session home with their client. Those therapists and clients who agreed to participate in her study told Kelli that it would be too intrusive for her to set up video equipment. Rather, they wanted to continue using their computers to record the sessions and then transfer the video data to a hard drive for her research purposes. Once Kelli received approval from her ethics committee, Kelli relied upon the therapists to record the sessions and then transfer the recordings to her on a weekly basis. She had to work closely with the therapists to find the best position for the computer, so that she could capture as much of the verbal and non-verbal interaction as possible.

However, the quality of these recordings may not be as good as those made on a device designed exclusively for recording.

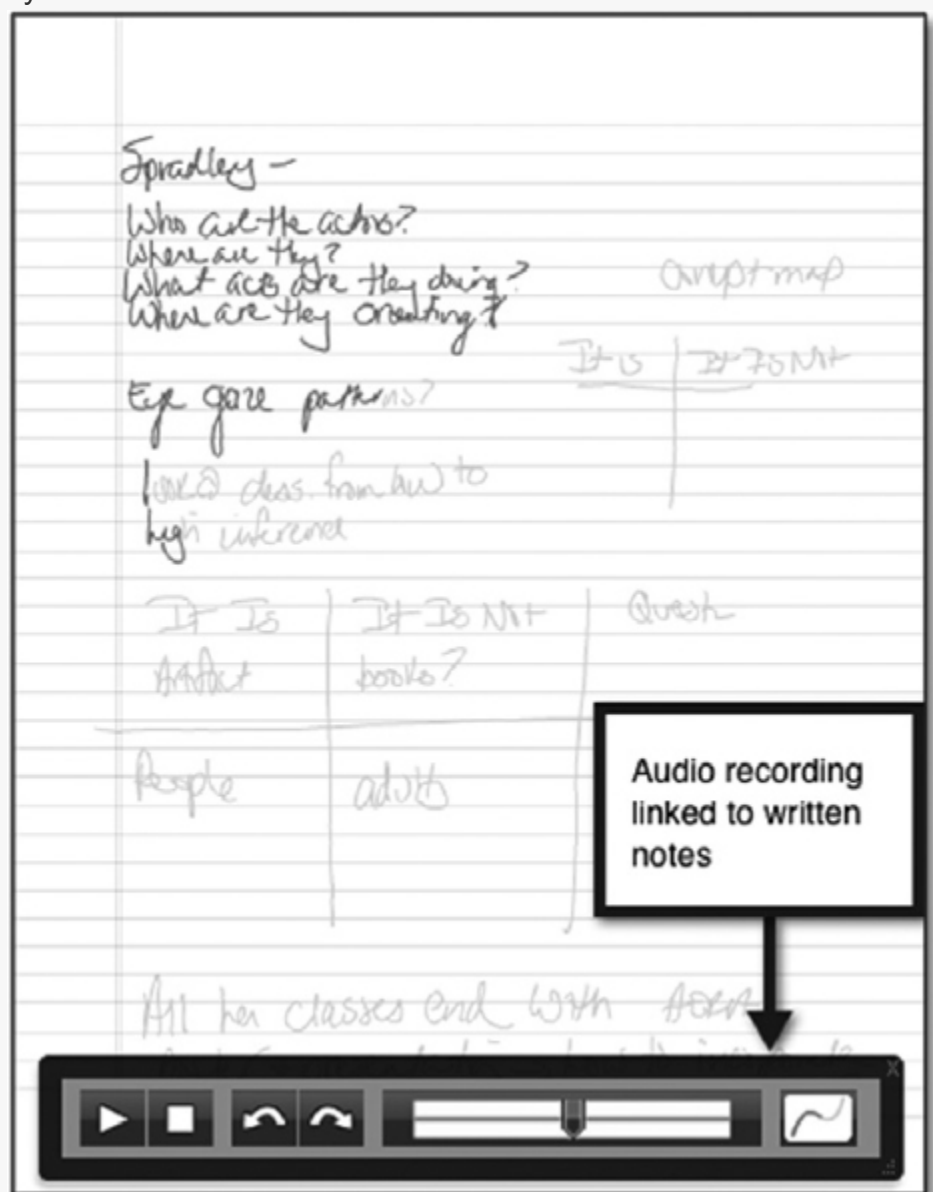
Another recording option are Smartpens, which contain an audio-recording device and an ocular recorder to recognize and store handwritten text. This device can be used to take notes whilst recording and to transmit data to other devices through a wireless Internet connection. The quality of the recording is high, and it synchronizes seamlessly with writing done on special paper. See [Vignette 5.2](#) in which Lisa Scherff and Boon Lim share their experiences with smartpens.

Vignette 5.2: Using Smartpens in Educational Research

Lisa Scherff and Boon Lim, Florida State University

Our interest in the Livescribe Smartpen™ was driven by our need to be able to create a record of discussions between preservice teachers and the adolescents they were tutoring, as well as what they wrote down during their tutoring sessions.

The Smartpen both audio-records and saves what was written via a program called Livescribe. Using special paper, you simply tap the record mark on the paper and the pen automatically begins recording. You can stop and start recording by simply touching the appropriate marks on the paper. Once a recording session is complete, you plug the pen into a computer and all the data is saved. The Livescribe website offers multiple applications, such as pen casting, integration with Google Docs and Evernote synchronization.



Our research team used the pens to document the extent to which the preservice teachers were incorporating particular teaching strategies into their tutorials. We wanted to be able to record impromptu conversations and semi-structured interviews between the teachers and the students. The preservice teachers were encouraged to use the pens during their interactions with the students. Some data were collected, but we found out that not all preservice teachers used the pens. For example, if the teachers were working with magazine articles or novels the pens were of little use. Next time, we will show teachers how they can print text (worksheets, informational text, poems, etc.) on to the dot paper using the free software. The best advice we can give is to provide enough of the special paper and ensure that all team members know how to use it.

Regardless of how you choose to record your data, it is important to spend time consulting with those who have collected similar types of data to find out what tools worked for them. [Table 5.1](#) highlights some of the things you should consider when selecting a recording device.

Table 5.1 Questions to consider when selecting a recording device (adapted from Phelps, Fisher and Ellis, 2007)

- Can an external microphone be used?
- Will the participants view the size of the recorder as intrusive?
- Does the recorder clearly indicate battery life and recording time?
- What is the default file format and size of the recording?
- Does the recorder have any features that enhance the sound quality?
- Is it possible to easily erase the files when needed? To protect from accidental erasure?
- Is it possible to attach text or images to the converted file?
- Can files easily be transferred to a computing device?

Visit Web Resource 5.3 for tips on selecting and using recording equipment.

Now turn to [Reflexive Practice 5.3](#).

Reflexive Practice 5.3

Select a recording device and collect some naturally occurring (e.g. conversational) data. How was the quality of the recording? What might you need to do differently next time?

Online Communities

The Internet has created a new type of naturally occurring data: online communities. Discussion groups,

blogs, social networking sites and virtual worlds are all sites of interaction that are important for social scientists to understand. Qualitative researchers have been using ethnographic methods to study these online communities since the 1990s. Hine (2000, 2007, 2008) suggested that ethnographies of the Internet involve virtual, rather than face-to-face, travel to the research site, resulting in an 'experiential rather than physical displacement' (Hine, 2000, p. 45). Kozinets (2010) referred to this specialized form of ethnography as 'netnography', suggesting that an adapted ethnographic approach be used to study these unique digital spaces.

Visit Web Resource 5.4 to read Derya Kulavuz-Onal's vignette on the unexpected challenges of netnography.

Visit Web Resource 5.5 to review a special issue of *Forum: Qualitative Social Research* focused on virtual ethnography.

Researching online communities can raise ethical concerns. McKee and Porter (2009) suggested that whether or not online spaces are treated as *text* or as *people* may guide decisions around whether or not informed consent is needed before entering the community as a researcher. Treating spaces as texts, while possibly eliminating the need to obtain informed consent, still requires attention to copyright and other legal requirements for interpreting texts which have been generated by others. Viewing the Internet as a place populated by *people* will often require the informed consent of those potential participants. McKee and Porter noted that online communities are more welcoming and open to researchers who are already members of the community and who approach research in a transparent and collaborative manner. They emphasized the importance of establishing credibility and building trust with the community you wish to study, which is no different from what is necessary to study offline communities.

Reflexive Practice 5.4

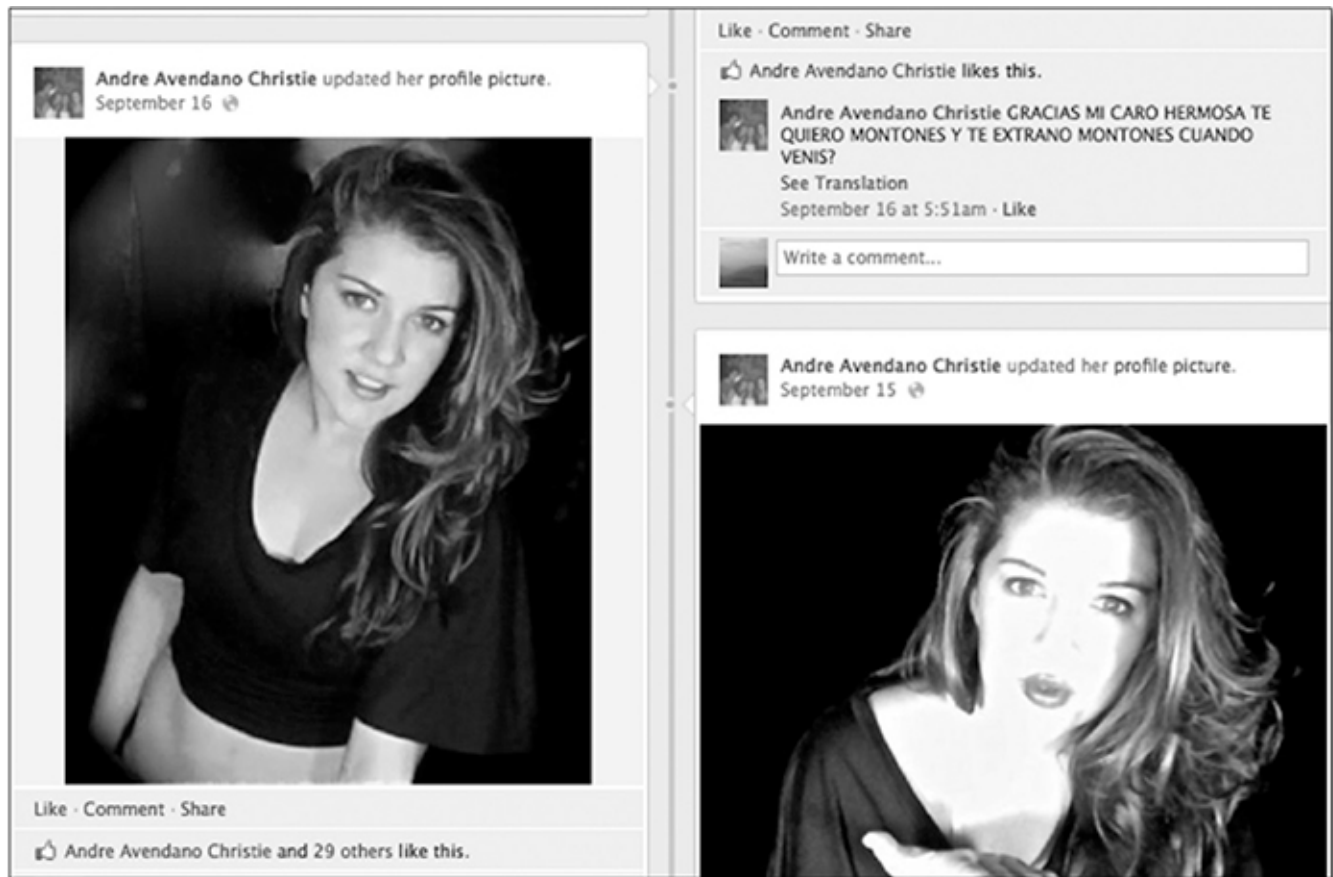
Including direct quotations from an online community in your research report may make it very easy, with Internet search engines, to trace the data back to its original source. How might this impact the community?

[Figure 5.1](#) is a heuristic that McKee and Porter (2009) provided to guide decisions around informed consent in online communities. The more private a conversation is considered to be by the participants (regardless of whether it actually *is* private), the more sensitive the topic, the more interaction the researcher intends to have with the participants and the more vulnerable the subject, the more likely informed consent should be sought.

Figure 5.1 Heuristic for making informed consent decisions in Internet research (adapted from McKee and Porter, 2009, p. 88)

Public vs Private	Topic Sensitivity	Degree of Interaction	Subject Vulnerability	Is Consent Necessary?
Private	High	High	High	Likely
↕	↕	↕	↕	↕
Public	Low	Low	Low	Not Likely

Social networking sites, such as Twitter and Facebook, are the most recent type of online community. Unlike participants in earlier online communities, members of these sites often use their real names and identities. Social networking sites can be viewed as sources of qualitative data and/or a means by which to interact with research participants. For instance, you might use Facebook to study the ways in which young girls construct their identities through their status updates and profile photos (see [Figure 5.2](#)). Such data could be analysed over the course of several months or years to show changes over time.

Figure 5.2 Images and posts on Facebook

Facebook can also be used as a way to verify your emergent interpretations of other data sources, as is described by Ron Hallett in [Vignette 5.3](#).

Vignette 5.3 Facebook Posts as Data Source

Ronald E. Hallett, University of the Pacific

In my study of college students who did not have documentation of legal immigration status, I sought to understand how social and institutional policies framed students' participation in the educational process. I developed a data collection plan that involved interviews, observations, document analysis and journalling. As the students became more comfortable with me in the researcher role, I began receiving 'friend' requests from them through the social networking site Facebook. I accepted without much thought about how this might influence data collection.

The value of these virtual connections soon became evident. I abandoned my original

plan that involved asking the participants to keep journals because it was clear they were already reflecting on life through their Facebook posts. I found that these posts affirmed and challenged themes that emerged from interviews and observations. Social networks emerged as an important component of their experience as undocumented students. While my face-to-face observations involved only campus-based networking, online the participants engaged with regional, state and national networks of undocumented students. Facebook posts allowed me to see individual needs for books and food, as well as expression of emotional highs and lows. Finally, participants conducted much of their organization through Facebook. I had to follow posts to know if a meeting time had changed, a rally had been organized or a social event had been planned. Joining the students online widened and deepened my understandings of the social phenomenon.

However, entering this virtual space raised ethical questions I had not anticipated, particularly around consent. I took a fairly strict stance that participants needed to consent to my treating their Facebook posts as data. I met individually with each participant to discuss utilizing their posts in place of asking them to keep a written journal. Although I was technically able to view any post participants had made since they joined Facebook, I chose only to treat as data the posts made after they consented to my doing so. My interest in virtual spaces remains pragmatic. If my participants are interacting in online spaces, I should join them in order to more fully understand their experiences.

Visit Web Resource 5.6 for a discussion of how Facebook might be used for data collection purposes.

As noted in [Vignette 5.3](#), studying online communities, or the online interactions of in-person communities, brings into focus new ethical concerns. McKee and Porter (2009) noted that whether or not online conversations should be considered public or private depends in part on whether the *participants* themselves consider it to be so. Consider [Case Study 5.3](#) and examine the ways that you might respond to this ethical dilemma.

Case Study 5.3 Ethical Dilemmas and Research in Online Communities

Geraldine desired to study an online forum in which grieving individuals share their experiences of loss. She wanted to find out how these sites might be used to help counsellors better support the bereaved. Geraldine's university ethics board said that she did not need to ask for permission to study the forums because they were publicly visible to anyone with an Internet connection. Yet, as she began reading through the forums she

became a bit uncomfortable, realizing that she was not viewing the data as just words, but as the words of real people who were in a vulnerable state and may not be aware that their words were publicly visible. She considered contacting each participant individually and asking for their permission, but feared that contact from a stranger might cause more pain and anxiety. She also considered contacting the site's moderator, a licensed counselling professional, but was unsure whether the moderator could really speak on behalf of the thousands of participants on the site. What would you do if you were Geraldine?

Visit Web Resource 5.8 (and [Vignette 7.2](#)) for information on tools that can be used to extract online interaction data.

Another type of online community is the virtual world, defined as 'places of human culture realized by computer programs through the Internet' (Boellstorff, 2010, p. 126). *Second Life*, a 3-D virtual world where you can engage in day-to-day living (e.g. buy homes, go to language classes) is one example of such a community. [Vignette 5.4](#) presents an example of Doug Canfield's journey into *Second Life*.

Vignette 5.4 Collecting Data in *Second Life*

Doug Canfield, University of Tennessee

For two years, I worked for a company who taught languages to students from all over the world in *Second Life*. I had a front-row seat to see how a virtual world could touch most every facet of our lives, from learning to entertainment to the consumption and production of popular culture. I began to reflect upon how virtuality transforms and questions core ideas about identity and relationships. This ultimately led to my initial foray into *Second Life* as a researcher. The ability to conduct research with persons in multiple worldwide locations was appealing to me.

Understanding a virtual space like *Second Life* requires, at a minimum, a consideration of the multiple demographics, cultures and modes of communication that exist there. To speak specifically of the multiple modes of communication, one can simultaneously text chat, voice chat, instant message, private voice chat, and file share. This speaks only to verbal communication. The ability to communicate non-verbally via gestures, clothing, the embodiment of the avatar itself (which can take any form) and *rezzing* (the creation or incarnation of objects in *Second Life*), complicates the collection of data.

To capture data from *Second Life* I tested out a few screen capture programs before

deciding on FRAPS. This software captures audio and video up to 7680×4800 with custom frame rates up to 120 frames per second. The resulting videos were stunning. I could see and hear everything with clarity and take camera shots from any angle or distance from participants without being intrusive (see [Figure 5.3](#)). The trade-off was that the higher-quality video requires one gigabyte of hard drive space per minute, with recorded sessions saved in separate files of 4GB each. Since some of these recorded sessions were three hours long, I ended up having to buy several terabytes of hard drive memory, with no possibility of it being portable across machines. I now use FRAPS for initial recording and first-pass analysis, eventually exporting only selected scenes for further analysis.

Figure 5.3 Doug Canfield's avatar making a participant-observation in *Second Life*



Internet Archives of Multimedia Data

In addition to online communities, the Internet is rich with multimedia data such as professionally curated archives, amateur-created YouTube and Vimeo videos and photo-sharing websites. The Internet Archive, for example, contains a variety of cultural artifacts that are freely available and downloadable. CADENSA, an online archive of the British Library *Sound and Moving Image Catalogue*, and Britain's BBC archives are useful resources for researchers interested in reviewing documentary film and political speeches.

Visit Web Resource 5.8 for links to the Internet Archive, CADENSA and Britain's BBC archives.

Videosharing sites such as YouTube and Vimeo are good sources for understanding social life. For example, you might be interested in how adolescent mental health disorders are represented in this media. For those interested in the ways in which images are produced and disseminated by individuals, photo-sharing websites such as Flickr, Picasa and PBase are potential sources for building a collection of images.

Next, consider [Reflexive Practice 5.5](#).

Reflexive Practice 5.5

Identify an online community and/or some online archival data that may be of interest for your research study. Consider how you might extract the data for further analysis and whether informed consent will be needed.

Digital Tools for Researcher-Generated Data

We now discuss digital tools that can support the collection of researcher-generated data such as interviews and focus groups, walk-alongs and images.

Interviews and Focus Groups

Whether structured, semi-structured or unstructured, many qualitative researchers have positioned interviews as a primary means of gaining access to human experience. Just like with recording naturally occurring data, there are many decisions to make around how to best record interview and focus group data. [Vignette 5.5](#) illustrates the ways in which the video recorder itself shaped Art Herbig and Aaron Hess's research process.

Vignette 5.5 Data in the Visual Context

Art Herbig, Indiana-Purdue University Fort Wayne, and Aaron Hess, Arizona State University

As part of our investigation into Americans' memories of 9/11, we quickly learned that the camera places a literal and figurative barrier between the participants and the researcher. Particularly while in the field, there are very few opportunities to create a stable camera setup. More often than not, there is a person behind the camera. In our work, we have chosen to address this concern by working together: one person behind the camera and

another conducting the interview. How we use the camera to frame an interview has a lasting impact on how that data will become part of our research. Basic camera techniques and bits of context become ways of depicting people, not just as participants in research, but as characters in our story. The camera almost feels like a translator taking content that existed in a particular time and context and reframing it as something to be part of a new project and often a very different conversation.

Working with that translator often provides challenges for the interviewer. In more typical fieldwork, interviews and observations are not bound by the norms of a medium that expects a three-act storytelling structure and clean audio tracks. For these reasons, the norms of film have the power to alter how the interviewer behaves. Those verbal cues that reassure the person that you are listening now have the power to replace that person's audio and make the shot unusable. Instead of choosing to conduct an interview in a private space out of the way, we look for visual contexts that will help frame who this participant is for the audience.

Capturing a participant's image for reproduction and distribution also changes that participant's relationship to both the research and the researcher. So much of qualitative research is grounded in our ability to mask the identities of our participants, but in visual work they appear onscreen for all to see. This requires an entirely different type of consent and sensitivity on the part of the researcher to know what would make good data and what would be exploitative. The participants who are willing to stand in front of a camera and pronounce their perspectives are often being very brave, and that act of bravery deserves to be treated with respect. Sometimes we have to acknowledge that what we have captured with the camera should never become data, and often those decisions are made while still in the field.

Thus, many decisions need to be made when constructing a video interview situation. While professional grade video cameras are necessary for the type of work described in [Vignette 5.5](#), smartphones and other mobile devices can also be used to record interviews. See [Vignette 5.6](#) for Everett Painter's description.

Vignette 5.6 Utilizing Mobile Devices in the Field: Interviews

Everett Painter, University of Tennessee

I recorded my interviews using a smartphone (iPhone) since it had the same recording and storage features as a standalone digital recorder. I also opted for a small, external

condenser microphone. This improved the sound quality and recording levels over the built-in microphone. While these devices also include basic recording software, I chose to use an application called iTalk. A plethora of third-party recording applications are available that offer extended control over file formats, recording quality and playback features. These options allow for adjustments and recordings that can easily be used with transcription software. This combination worked well and produced recordings that were loud, clear and free of background noise. Additionally, I used the iPhone to document the environment through photos and scans of site artifacts.

I found the benefits of this approach to be accessibility and organization. It was helpful to have continuous access to my data when opportunities for reflection and analysis presented themselves. Collecting data in this way afforded convenience and allowed me to carry fewer items. Organization was improved by replacing paper data with easily manageable digital files. However, as all of the data is in a digital format, backups are essential. This is easily accomplished by synchronizing data across computing devices or using cloud-based storage such as Dropbox. Using passwords, encrypting data when possible and setting up the devices so they can be remotely erased in the event of loss or theft is crucial for keeping data secure and protecting the identities of participants. Even with these safeguards in place, I took the additional step of moving sensitive data to a more secure computer as soon as possible after collection.

Mobile devices can be an efficient way to collect interview data while in the field. Talking with others who have done similar types of data collection and reading reviews of new applications are good steps to take when considering this option.

Visit Web Resource 5.9 for information about the potential pitfalls of mobile interviewing.

The videoconferencing tools such as Skype and Google Hangouts described in [Chapter 3](#) can be used for data collection as well as engaging in research team meetings. Travelling to remote communities to engage in research can be costly and is not always feasible, so the ability to talk in real time with visual cues can be of great benefit when conducting interviews or focus groups at a distance (Gratton and O'Donnell, 2011). It is important to be sure that all participants have a robust Internet connection to support the video. Tools such as Pamela (see Web Resource 3.5) and TechSmith's Camtasia (described later in the chapter) allow you to record these videoconferences.

An alternative to video conferencing to reach participants at a distance is to use online text-based asynchronous or synchronous interviews; see [Table 5.2](#).

Table 5.2 Affordances and limitations of asynchronous and synchronous online interviews (adapted from O'Connor et al., 2008, p. 273)

	Asynchronous Online Interviews	Synchronous Online Interviews
Venue	Email and discussion board	Text chat, instant messenger
Time Restrictions	Non-real time; no time constraints	Real time; constrained by time
Software Requirements	Simple and likely familiar	May be more complex
Technical Abilities	Low	Medium
Speech of Response	Includes time to reflect	Spontaneous
Disadvantages	Easy to ignore or delete emails/discussion posts and lack of visual cues	May have more technical issues and lack of visual cues

With asynchronous tools, such as email interviews, participants can respond when it is most convenient for them to do so, decreasing the chances that people will leave the study due to time constraints. The participants will also likely have more time to reflect upon their responses, potentially resulting in richer data sets. While email is a familiar tool for many, it is important to remember that not everyone has access to it and some might find typing to be difficult due to a variety of impairments.

In contrast, synchronous tools, such as instant chat focus groups, retain the spontaneity inherent to an in-person interaction. With little time to edit or redraft responses, as might be done in email interviews, participants' responses in synchronous interviews are often viewed as more honest. A disadvantage to the synchronous interview is that you may have to work hard to keep up with the discussion, particularly if your interview is unstructured and you are required to make a quick interpretation of what is being written. Further, the synchronous discussions may appear somewhat disjointed, especially if you ask a new question prior to the participant fully responding to the previous one. One advantage to both synchronous and asynchronous text-based tools, however, is that you will not have to transcribe your interviews, as the conversations are automatically archived.

Visit Web Resource 5.10 to read Janet Salmon's blog, *Vision2Lead*, where she provides tips for engaging in online interviews as well as ethical issues to consider.

See [Vignette 5.7](#) for an example of how text chat was used to conduct synchronous interviews.

Vignette 5.7 Using Synchronous Chat Tools to Conduct Interviews

Trena Paulus, University of Tennessee

A few years ago I was collaborating on a research study with a colleague in Oregon, three time zones away from where I live in Tennessee. We were studying how social networking sites could be used as part of a teacher education course. I was responsible for conducting the interviews and knew it would be a challenge with the time difference. Face-to-face interviews were not an option as we did not have funding for me to travel out of state. Telephone interviews could be a bit stilted since I had not met the participants face-to-face and it could be difficult to establish a rapport. Skype or videoconferencing interviews were considered, but I was not certain that all participants would have a webcam and microphone. The asynchronous nature of email wouldn't allow for much probing or many follow-up questions. We decided to use text chat because it would allow some of the advantages of email – in that participants could reflect before typing, and the synchronous nature would allow me to ask follow-up questions as needed.

Since the participants had recently experienced text chat as part of their class, we knew that they were familiar with the medium. Some chose to use Skype text chat, others Yahoo Messenger and others Gmail chat. Much of the hour-long interview time was spent waiting for the participant to type out their answers. The typing speed of the participants vastly impacted the duration and depth of the conversations. As is typical with synchronous chat, answers often spanned several turns, interspersed with my affirmation turns ('right', 'okay', 'sure'), making the conversations somewhat interesting to decipher when reviewing the transcripts.

An advantage of this approach is that the transcripts are automatically archived – eliminating the need for transcribing. However, the responses to the questions were likely shorter than they would have been had we been talking face-to-face, or even through email. I did not find much variation across the synchronous chat tools, as all work in very similar ways. You do have to keep in mind the potential risk of losing data (e.g. closing the chat box by accident or the window freezing). It is important, then, to save the chats carefully and in an ongoing manner.

Now turn to [Reflexive Practice 5.6](#).

Reflexive Practice 5.6

Select one of the digital tools described thus far and use it to collect some sample interview data. After collecting the data, make a reflexivity journal post comparing the interaction with any past data collection face-to-face interview experiences you may have had.

Walk-Alongs

Beyond the traditional sit-down interview, a 'walk-along' interview is a data collection technique in which the researcher 'walks and talks' with the participant at the research site. This approach has the added benefit of building rapport with your participants (Carpiano, 2009). A walk-along serves as a concrete way to 'map' the spatial location of what is being shared in the interview, especially in conjunction with the use of GPS/GIS (Geographic Information System) technologies. Often, the audio or video recording will include soundscapes from the area (see [Chapter 8](#) for a further discussion of soundscapes). Furthermore, the technique allows for the environment itself to serve as the prompt for the discussion. Video recording can be somewhat cumbersome during walk-alongs, with the use of mobile devices being more effective.

Jones and Evans (2012), in the 'Rescue Geography' project, used GPS technology and walk-alongs in which people's feelings about their environment were linked to the location in which they shared them. Participants were asked to choose their routes to generate stories about the spaces in which they navigated, using mobile devices to record their stories and aspects of the environment. Eventually, much of their data set resulted in the production of a transcript in which every 10 seconds of the audio recording was linked to a GPS record.

Visit Web Resource 5.11 to see the 'Rescue Geography' project.

We have seen several ways of collecting interview and focus group data. We now turn to another type of researcher-generated data – images.

Images

Anthropologists and other qualitative researchers have experimented with giving cameras or video recorders to participants with the aim of understanding the world through 'their eyes'. Photo-elicitation (also called photo-interviewing or projective interviewing) is a technique in which the researcher uses photographs or other images, either generated by the participant or the researcher, within an interview or focus group (Norman, 1991). The photographs are presumed to serve to expand the interactions between the researcher and participant, even serving to elicit latent memories and/or decrease the potential for misunderstandings (Harper, 2002).

Photovoice is a data collection method in which the participants themselves are involved in producing images that speak to their day-to-day lives (Baker and Wang, 2006). This particular approach has been conceptualized as a type of participatory action research with participants being directly involved in the production and, in many cases, interpretation of the images. The visual images typically accompany the everyday stories of participants; as described by Fanny Yeung in [Vignette 5.8](#).

Vignette 5.8 Using Photography in Educational Research

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My research aims to better understand how students' family relationships, immigrant histories and responsibilities influenced their post-secondary experiences. In combination with in-depth interviews, photovoice was selected to provide participants with the opportunity to participate in the data collection process and document aspects of their lives from their own perspectives. In addition, photovoice enabled participants to continue to think about the themes during the interviews and enabled me to triangulate the various data sources. I was excited about the idea of using photographs to capture family dynamics, a perspective not often observed in educational research, and intrigued by the idea that students could actively participate in the data collection process.

There were three main components of the photovoice data collection phase: a photography guide, consent forms, and a photography log. The guide facilitated the photovoice process and asked students to reflect on artifacts at home related to their education and family responsibilities. Students returned with photographs of academic and co-curricular awards that they had not discussed in their interviews. Others documented their roles as care providers to younger siblings or their grandparents. Many times, the details and depth of the examples provided in the photographs far exceeded the information provided verbally in the interviews.

While participants were provided with disposable cameras, approximately a third of the participants requested to use their personal digital cameras instead and emailed their photos to me. In hindsight, there were advantages to both approaches. The disposable camera captured photos that were imperfect and in some ways more authentic. While all photos were staged to some extent, pictures taken with the disposable camera were more likely to include landscape pictures of rooms, rather than individual objects or sets of items. Disposable camera photos were more likely to capture parts of the room they had not initially intended to (and were often less organized). Some photos also had poor lighting, poor resolution and were blurry. In contrast, photos from digital cameras were more polished and of greater quality, i.e., objects were often framed and centred and had fewer distractions. Polished photographs provided limited opportunities to capture unexpected patterns or objects in students' thought processes.

The consent form was an important component for protecting the participants' identities and personal details. It was important to communicate how the photos would be used

in scholarly presentations and publications. Students first consented to participate in the project and later provided consent for me to use the photographs in my study findings. The multiphase consent process was challenging due to time constraints; however, it was invaluable because it required participants and I to meet at least two to three times throughout the study.

Visit Web Resource 5.12 for tips on collecting photographic data.

Methods like photo-elicitation and photovoice can be particularly useful for engaging in research with individuals who may not express themselves verbally or may be less apt to share in the context of a formal interview (Banks, 2007). In Mizen's (2005) study of children's work life in England and Wales, he provided 50 children with inexpensive cameras and asked them to create a photo diary of their work experiences. As one of many data points, the photo diary was used to consider 'what the children had to tell us about their work [rather] than the usual preoccupation of researchers with what the work has to tell us about the children' (Mizen, 2005, p. 125).

Visit Web Resource 5.13 for examples of photovoice research projects.

Collecting images may require investment in disposable cameras and/or more expensive equipment to ensure adequate quality. When deciding what digital tools to use to capture images, consider the questions suggested in [Table 5.3](#).

Table 5.3 Questions to consider when collecting images

- What level of quality is needed in the collected images?
- How will you acquire the consent of individuals in photographs who may not be part of the study?
- What will you use the image for? What types of analysis will you conduct?
- Will your participants be capturing the images?
- What level of technological abilities will be required in order to capture the images?
- How will you save the images?

One of the most straightforward ways of editing digital still images is to use the Snipping tool that is automatically included in the Windows operating system. Another option is TechSmith's Snagit 11, a very versatile image processing software package. With it, you can capture and annotate images from multiple sources. Beyond screen capture of images, you can also use it to capture text from a PDF, for example. A final tool that is particularly useful is its video capture tool. You can use this to capture screen activity, zero in on items playing on your computer, and/or create simple screencasts.

TechSmith's Camtasia software is also an image-based tool, primarily designed for making screencasts and presentations. It is powerful enough to use for editing video, yet simple enough to add images and voice-overs to video or static images. It is particularly useful for capturing actions on your computer screen and

producing them as videos; if you design research that results in collecting interactions, you can capture the action and any speech occurring at the same time.

Visit Web Resource 5.14 for links to TechSmith's Snagit and Camtasia software programs.

Keep in mind that when capturing still or moving images it is important to think carefully about how the images will be used and the ways in which participants' identities will be protected, as highlighted in [Reflexive Practice 5.7](#).

Reflexive Practice 5.7

Collect some image-based data – stills or video – that may be relevant for your research. What might be some ethical challenges resulting from making your participants and their locations visible in this way?

Visit Web Resource 5.15 for data management tips.

Final Thoughts

New digital tools make possible new types of methods such as walk-alongs and photovoice techniques, but bring with them new logistical and ethical challenges. Devices such as mobile phones, Smartpens and GPS tools can be used to collect data in less obtrusive ways than traditional recording devices. Online conversations and communities, in combination with mobile devices and the prevalence of video and image sharing sites, make it easier to capture social life as it is happening. Engaging in research in these spaces can result in large amounts of data, so when embarking on a new study, make a data generation plan and regularly evaluate the data that you have. Consider both naturally occurring and researcher-generated data that might help you answer your research questions. When necessary, modify your initial plan systematically and thoughtfully. While you might be initially interested in one type of data, be open to other types that may better represent the social life of your participants. Remember, too, that logistics matter. If you are interested in classroom talk, you will need to not only gain permission to access a classroom setting but also find a way to clearly record the talk of large groups. Remember too that capturing images and entering online communities carry with them new ethical dilemmas that must be handled carefully.

Chapter Discussion Questions

1. What are the differences between naturally occurring and researcher-generated data sets?
2. Give examples of the ways in which the Internet can be both a *source of data* as well as a *tool* for data collection.

3. What are some online communities you are a part of? What social interactions occur in those communities that might be of interest to qualitative researchers?
 4. How can you ensure ethical practices as you generate data for your research study?
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Suggestions for Further Reading

Fielding, Lee and Blank (2008) include sections on the ethics of Internet research, virtual ethnography and the Internet as an archival resource. Hesse-Biber (2011) provides chapters on emergent data collection methods and the use of audiovisual, mobile and geospatial technologies. For an overview of the various ways that blogs can be used as part of a qualitative researcher's toolkit, see Hookway (2008). Salmons' (2010) *Online Interviews in Real Time* is an excellent resource for conducting online interviews, and comes with a companion case study volume. Kozinets (2010) offers practical guidelines as well as an overview of studies that have examined online communities. Markham and Baym (2009) bring together well-known scholars to speak to Internet research issues such as the changing nature of privacy and how to evaluate quality in Internet studies.

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