Qualitative Data Sources and Data Collection Methods

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Essential Questions

1. What choices does one need to consider before selecting a qualitative methodology?
2. What sources of data are used in qualitative research, and what is the difference between primary sources and secondary sources?
3. What are the strengths and limitations of the qualitative sources of data?
4. How does one develop and field test open-ended interviews?
5. How does one collect qualitative data? What skills are needed to conduct interviews and focus groups?

Introduction

The purpose of this chapter is to provide an overview of sources of data and data collection in qualitative research. The design of data sources and the data collection itself includes gathering evidence as part of a systematic exploration. Systematic exploration includes the process of exploring every dimension during research in order to uncover findings and build new understandings to address the why or how of a phenomenon.

Most people are exposed to the concept of systematic investigation as early as their high school science education and have familiarity with it through television shows, books, and other forms of popular culture that depict the scientific method as a process of fact gathering. For example, courtroom dramas and detective novels highlight the role of fact gathering in case investigations or underscore the value of factual evidence in legal trials. The notion of "fact" is so pervasive in Western culture, and so old, that it has become "part of the general furniture of the mind," so to speak (Shapiro, 2000, p. 1). Cultural historian Mary Poovey (1998) explained that "Western philosophy since the seventeenth century has insisted that the things we observe [in nature] constitute legitimate objects of philosophical and practical knowledge," and as a result, "many people think of facts as particulars" that are "isolated from their contexts and immune from the assumptions (or biases) implied by words like 'theory,' 'hypothesis,' and 'conjecture'" (p. 1). She cited, for example, the fictional character Joe Friday in the well-known detective series *Dragnet* (1949–1970), who famously believed that he could "get to the bottom of things" as long as he could gather the particulars and limit the subjective input of his witnesses. Joe Friday regarded facts as reflections of reality, but he mistrusted subjective feelings and beliefs as corruptive influences that might taint evidence with bias. Poovey affirmed "this is the sense of 'facts' implied by Joe Friday's terse demand, "'*Just the facts, Ma'am*'" (p. 1).

Grand Canyon University (GCU) learners may be surprised to find out that qualitative research is something of a maverick approach to social science, and that data collection in the qualitative tradition is at odds with the notion of fact gathering described above. Qualitative research is characterized as a revolution or reformist movement in the social sciences that seeks to supplant empiricist notions of data collection with

interpretive methods (Denzin & Lincoln, 2008; Schwandt, 2000). In qualitative research, the subjective elements that Joe Friday dismissed as extraneous or corruptive—namely the personal beliefs, attitudes, perceptions, and feelings of other individuals—are valued as important sources of information in the quest to understand social phenomena. The qualitative researcher is less worried about the so-called "straight story" of what happened, because he/she is committed to the idea of plurality of human experience. The phenomenon, to the extent that it can be known, is filtered through multiple perspectives and brings into play multiple points of context. Veteran researchers Denzin and Lincoln (2008) elaborated that any study of social phenomena

> is always filtered through the lens of language, gender, social class, race, and ethnicity [...]. Subjects or individuals are seldom able to give full explanations of their actions or intentions; all they can offer are accounts, or stories, about what they did and why. (p. 12)

The goal of qualitative research, therefore, is to weave together these rich, fragmented stories through the subjective lenses of other people, extracting meaning from their lived experiences. Qualitative data are not raw data in the sense of untampered bits of truth, but rather, complex feelings or thoughts molded within the mental experience of other people and then interpreted through the eyes of the researcher. Some scholars suggest the act of interpretation is so fundamental to qualitative study as to necessitate the discarding of older verbiage such as *data collection* in favor of more suitable terminology such as *account building* or the *construction of lived experience* (Polkinghorne, 2005; McLeod, 2001; Van Manen, 1990). At present however, the traditional verbiage is still widely used and continues to hold sway in GCU's core qualitative designs.

Choices Before Data Collection

Qualitative Versus Quantitative Methodology

Researchers commonly misconstrue data collection as a simple plan-and-execute process, a rather mechanical research activity that proceeds only after exhaustion of contemplative exercises, such as theory examination, literature review, and design justification, and, therefore, lacks the level of intellectual rigor found in these other phases. The truth is that meaningful contemplation takes place at all stages of doctoral research, and the data collection phase demands its own level of intellectual investment on behalf of the researcher.

Crotty (1998) reminded newcomers to research that data collection is not just a choice between this type of information over that type, but rather, a philosophical commitment to assumptions about reality (ontology) and knowledge-making (epistemology). Researchers must deliberate carefully over the nature of the social phenomenon and its accessibility to human reason when choosing the collection strategy. They must decide, for example, whether to see the phenomenon as lodged within a single verifiable reality (i.e., philosophical realism) or stretched across a tapestry of unique perspectives (i.e., phenomenalism). They must decide whether to adopt positivist or interpretivist epistemologies. Table 6.1 provides an overview. All science is empirical in that it places weight on human sensory experience in knowledge-making, but not all science is in agreement on the suitability of this experience for describing the world. Positivists say that sensory data provide unfettered access to real-world happenings, whereas interpretivists and constructivists counter that sensory data remain unavoidably imbued with subjective elements from the mind, as well as social context, creating a patchwork of local viewpoints on what may have happened, or in other words, multiple realities.

Table 6.1

Range of Philosophical Assumptions in Qualitative Research

Objectivity Subjectivity					
Ontology	**Realism**	**Phenomenalism**		**Pan-Subjectivism**	
	There is an "outside world" independent of human consciousness, ideas, language, and beliefs that is completely accessible to the human senses. The world is reproduced in the mind as an exact copy.	There may be an "outside world" independent of human consciousness, ideas, language, and beliefs, but it can be accessed only through human sensory experience in a very limited way, either because of the inadequacy of the senses or because of the larger role of the subjective mind. Instead of a direct experience of reality, the world is translated into images called *phenomenal perceptions*, which are inexact copies of reality.		There is no "outside world," only a stream of interwoven minds engaged within a coevolving debate. Reality is seen as a fluid process of subjective engagement that is best understood through a linguistic or literary analysis (science itself is seen as a narrative building enterprise).	
Epistemology	**Positivist Empiricism**	**Interpretivist Empiricism**	**Constructivist Empiricism**	**Critical Theory**	**Post-Modernism**
	Perceptions are the result of direct stimuli from real objects. Information is literally the stuff of reality transferred into the mind of the knower.	Perceptions are mental images; they are the product of both sensory data and the subjective self-reflection of other individuals (i.e., their thoughts, beliefs, feelings, desires, and so forth). The knower reaches into the minds of others, and in so doing, is affected by their	Perceptions are mental images; they are the product of both sensory data and preexisting cognitive frameworks within the mind of the knower. These frameworks give rise to concepts, models, and schemes, and ultimately impose order on the world as it is perceived	Perceptions are mental images; they are the product of both sensory data and preexisting sociocultural categories or power relations. The knower draws on existing social categories	Perceptions are mental images; they are the product of textual or discursive data and preexisting sociocultural categories or power relations. The knower draws on existing social

		viewpoints. Some bias and prejudice is inherited. The researcher has to negotiate to what extent objectivity can be maintained.	(giving shape to the data as they come in).	or power structures (e.g., race, gender, sexual orientation, economic class) to make sense of the data as they come in. The data are not just facts; they are pieces of culture that invite social change. An agenda undergirds the study.	categories or power structures (e.g., race, gender, sexual orientation, economic class) to deconstruct hidden agendas within textual or discursive narratives. The data are stepping-stones for identifying plural or often conflicting narratives.
What is Knowable	The objective universe	A multiverse (multiple versions of a local reality)	A multiverse (multiple versions of a local reality)	A multiverse (multiple versions of a local reality)	A series of narratives or virtual histories
Methodology	Quantitative	Qualitative	Qualitative	Qualitative	Qualitative

Design Examples	Experimental Study Quasi-Experimental Study Causal Comparative Study Correlational Study Descriptive/Cross-Sectional Study	Case Study Narrative Study Phenomenological Study Grounded Theory Study Simple Descriptive Study Ethnography	Case Study Narrative Study Phenomenological Study Grounded Theory Study Simple Descriptive Study Ethnography	Ethnography Narrative Study Critical Discourse Analysis Feminist Theory Queer Theory Marxist Theory	Poststructural Analysis Dialectical Analysis Discourse Analysis Semiotics Narrative Study Ethnography

Why should GCU's learners feel the need to weigh such philosophical issues when establishing their data collection plans? Why not just head out into the field? The answer, as Crotty (1998) discerned, is that philosophical assumptions often influence the way researchers think about (and, therefore, study) social phenomena. Crotty believed researchers risk undermining their studies by not starting with transparent examinations of their philosophical assumptions. By the time the researcher gets out into the field, gathering his or her data, it is too late to stop and wonder whether the chosen collection strategy is adequate for the research topic undertaken.

Consider the following hypothetical scenario. A researcher named Sally wants to study psychological resilience in adults who recently lost their jobs. She proposes to conduct qualitative research that will draw on two main sources of data: semistructured interviews and a validated scale survey. She believes that a qualitative methodology will be better for examining people's stress-points, emotional fortitude, and other aspects of resilience because, after all, qualitative methods endeavor to understand human subjectivity, and the phenomenon of resilience is in many ways a subjective experience. Sally plans to acquire the bulk of her data through interviews, but she is most excited about the scale survey, which purports to be one of the first instruments capable of assessing a resiliency spectrum in people with hardship. In her dissertation proposal, Sally touts the survey's ability to assign numerical value to an otherwise amorphous psychological quality; arguing that it will prove useful in her research to plot each individual's progression toward resilience. Sally's dissertation committee, however, is not as enthused with her plan. They notice that Sally's proposal lacks a clear strategy for connecting the survey scores with her descriptive data from the interviews, explaining how the survey helps uncover the lived experiences of unemployed adults. Sally spends the majority of her proposal elaborating on the survey's protocol, validation, and procedures for scoring, allocating very little time to her discussion of the interview process. It becomes clear to the committee that Sally has adopted philosophical assumptions that are incompatible with her plan to conduct qualitative research. Sally, it turns out, believes in the realism of her phenomenon, meaning that in her view, psychological resilience exists in the minds of her target population as a concrete thing. As a result, she wants to use an instrument that can access this objective reality, extracting truth about resilience right from the source (the minds of her adult

population). The scale survey, she thinks, will reveal the absolute position of her adults on a real mental spectrum, allowing her to study resilience as if it were a universal condition susceptible to one-size-fits-all scoring.

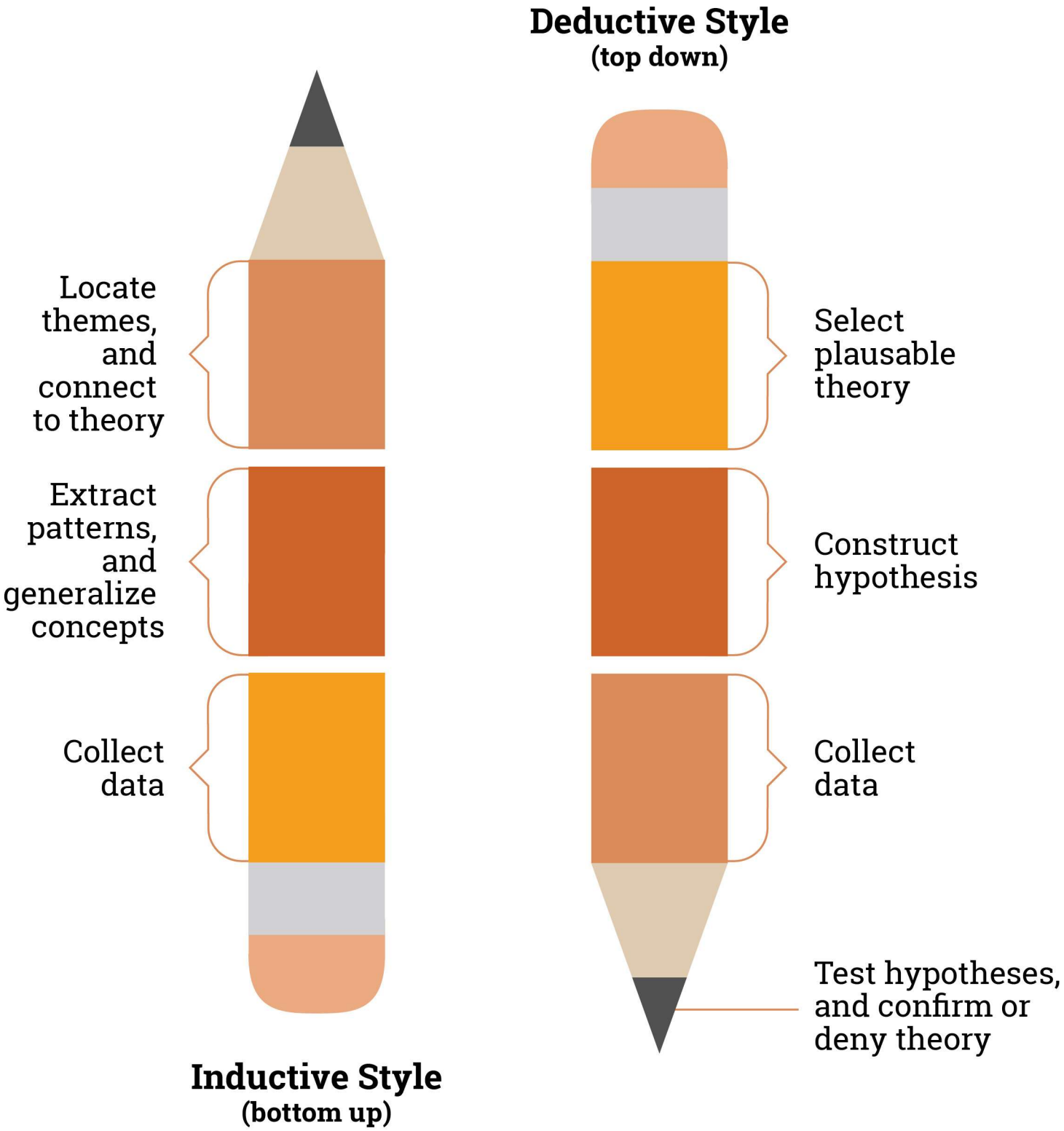
The committee concludes that Sally's philosophical commitment to realist ontology and positivist epistemology does not align within her qualitative research proposal, which typically embraces a phenomenalist ontology and interpretivist epistemology. Table 6.1 provides the options. Sally's committee implores her to switch from qualitative to quantitative methodology, which aligns better with her philosophical convictions and allows her to keep the survey tool. The benefit, they argue, is that Sally will avoid wasting time and resources gathering data that do not address her research problem. For example, she will finish her data collection with sheets of numeric scores for stress impact, emotional fortitude, adaptability, and so forth, that offer a quantified view of the issue at hand but tell her precious little about the unique lived experiences of adults who face hardship and who offer varying views about resilience. There is little value in concluding that Participant X scored above average fortitude or low stress impact when in fact, the study's main research question is: "How do adults perceive their recent emotional and psychological responsiveness to job loss?" The former data offer no descriptive insight into the subjective outlook of adults, and thus, fail to complement the interview data. Sally was perilously close to collecting incompatible sets of data, which could have impaired her ability to conduct data analysis. Sally's scenario is a cautionary tale, illustrating the dangers that await researchers who overlook the assumptions within their studies.

Inductive Versus Deductive Reasoning

Philosophical assumptions are not the only considerations when choosing methodology. Ultimately, the researcher's methods have to match his or her style of reasoning, or in other words, the logical sequencing of thought and activity. In quantitative research, for instance, the main style of reasoning is called *deductive reasoning*, whereby a researcher begins with the selection of a plausible theory for a given phenomenon, and then proceeds to the collection of data in order to confirm or deny the theory's relevance (see Figure 6.1). Because *theory* is a very broad intellectual framework that does not automatically fit the particulars of a given phenomenon, the researcher has to narrow the theory's application by constructing a set of truth claims, or what are commonly called *hypotheses* (Merriam & Tisdell, 2016). The researcher can test these claims by imposing data collected from the field and then use the results to decide whether to confirm or deny the theory.

Figure 6.1

Inductive Versus Deductive Reasoning



In qualitative research, a very different logical sequencing takes place called *inductive reasoning*. The researcher relies primarily on data collection to drive the study and uses theory only to the extent that it informs his or her research questions. The data, in essence, are allowed to generate their own meaning and give rise to a set of generalizations that, in the end, potentially have relevance for an existing theory or, in rare instances, produce a new theory (usually when associated with grounded theory research). An inductive investigator operates from a faith that, given sufficiently rich and voluminous set of data, the mind will conceptualize a pattern and generalize about the phenomenon. The stronger the data set, the clearer the patterns become, and the better a researcher can generalize toward theory (Merriam & Tisdell, 2016).

The inductive-versus-deductive debate is a staple of social research featured prominently in dissertation proposal writing as learners lay out their own agenda for study. However, doctoral researchers must observe two cautionary notes. While inductive and deductive reasoning are the most commonly used in social research, they are not the only styles of reasoning available. Consequently, learners should refrain from making global statements or claiming a comprehensive treatment of reasoning styles during their proposal writing. For example, a discussion of inductive-versus-deductive reasoning omits the possibility of another style called *abductive reasoning*, famously used by the fictional detective Sherlock Holmes, but also guides some forms of social research (Lipscomb, 2012; Reichertz, 2010). The second word of caution pertains to inductive reasoning exclusively. The notion that data are able to generate their own meaning (as stated above) remains only partly true in the qualitative research tradition because, inevitably, the human mind imposes some sort of value on the data during perception. Figure 6.1 reveals that, for all qualitative approaches, the researcher must assume that participants and researchers add something to the data during perception. This "something extra" can be conceptual in nature, but it can also be emotive, social, or cultural. The point is that data are never truly represented as they are in a realist sense.

Operationalization of the Phenomenon

Many social phenomena can be justified as worthy of investigation either because of a pressing social need or a gap in the scholarly literature, but not all phenomena are operational. Sometimes, this is because of the inherent complexity and ambiguity of the phenomenon itself, but more often it is because of the failure of the researcher to clarify the conceptual features of the phenomenon during his or her design process. To **operationalize** means to articulate the social phenomenon in a way that makes it intelligible and meaningful to prospective research participants, removing all doubt about the focus of the study (Babbie, 2014; Schensul et al., 1999). Fellow scientists benefit from operationalization as well, as it helps shed light on variations that may exist between the researcher's understanding of a phenomenon and the understanding(s) of the scientific community at large. Schensul et al. (1999) explained that the operational quality of study depends on "primary elements (terms) of research descriptions … that makes it possible for researchers and research participants to understand each other, and to locate what they are talking about in the field" (p. 51). Therefore, a **nonoperational phenomenon** is one that lacks clear articulation in the research questions and data collection instruments, and is, therefore, incapable of generating the sort of rich, descriptive data required for systematic analysis in qualitative research.

In the earlier hypothetical involving Sally's study of psychological resilience, it was taken for granted that Sally could operationalize her phenomenon, but what would this have involved? Perhaps Sally recognized early in her research planning that resilience means different things to different people and that her study participants would benefit from guidance on what the term means in her project. She knows that her resilience category needs greater structure to ensure that her feedback is relatable. Sally explains that resilience denotes a lifelong process rather than a temporary mental state, which means that individuals who undertake the journey are always part of the resiliency progression, that is they never lack resiliency to the degree that they did before the journey. She also adds greater clarity to how resilience connects to stress, coping, bad habits, and adaptability, providing detailed definitions for each. Sally's enhanced structure for resilience helps orient her participants to what she is trying to study and eliminates the possibility of confusion over a hard-to-define concept. This clarity helps her in recruiting and sampling, as she can now introduce a screening questionnaire to select only those adults who feel a connection with her concept. Fellow scientists appreciate Sally's effort to make resilience operational, because it helps them understand what dimensions she embraces as illustrative of the resiliency progression. It also helps make Sally's research repeatable in the future, should certain scientists decide to replicate her study on a larger scale or in a different social context.

The Nature of Data

The word *data* has no simple origin. Its modern meaning was conceived in the aftermath of the 17th-century Scientific Revolution, when the brilliant discoveries of Isaac Newton, Rene Descartes, and others inspired a popular belief that knowledge comes through sensory experience and that it can be solidified through experiments: repetitions of sensory experiences under artificial conditions (Daston, 1988; Shapin & Shaffer, 1985). This shift in Western thinking was accompanied by a corresponding change in vernacular. The word data, which had previously meant a set of "given information in a logical argument," (Rosenberg, 2013, p. 18) was reconfigured to align more closely with concepts of fact and evidence in scientific study. By the 18th century, it was commonly understood that data referred to information about real events and served as raw material for evidence in a truth claim; therefore, the word is most closely associated with realist philosophy and positivist empiricism, the two building blocks of the quantitative research tradition. Its application to qualitative research is largely an accident of history: qualitative research began as a revolt against positivist science in the mid-to-late 20th century and was, therefore, built on the preexisting foundations of positivism, inheriting words such as data.

Quantitative Data

In quantitative research, data denotes bits of reality or "morsels of information" (Gitelman & Jackson, 2013, p. 1) about reality that are extracted from the very fabric of nature through sensory experience and arranged conceptually to help judge hypotheses. In essence, researchers pluck data from the world and distort it in the human mind as fixed entities, having no potential for creativity in themselves. This notion of passive and manipulable data has become ubiquitous in the digital age, as scientists attend to data mining, data archiving, data processing, and data dumping (Gitelman & Jackson, 2013). For the quantitative researcher, the passivity of data is important because it enables transparency into the social world, removing the murky film of human subjectivity that poses a challenge for measurability and validity. Media scholars Gitelman and Jackson (2013) explained that

> At first glance data are apparently before the fact; they are the starting points for what we know, who we are, and how we communicate. This shared sense of starting with data often leads to an unnoticed assumption that data are transparent, that information is self-evident, the fundamental stuff of truth itself. (p. 2)

If data are indeed the "stuff of truth," then they can be collected and used by researchers to evaluate hypotheses and posit theories without having to worry about the distorting influence of beliefs, attitudes, and so forth.

Another distinctive characteristic of quantitative data is that they are prestructured (Punch, 2005). The goal of quantitative research is to express numerical relationships or statistical descriptions. Consequently, all observations have to be converted into numbers. Punch (2005) elaborated,

> Information about the world does not occur naturally in the form of numbers. It is we, as researchers, who turn the data into numbers. We impose the structure of the number system *on* the data, bringing the structure *to* the data. (p. 55)

Quantitative research involves "assigning numbers to things, people, events or whatever, according to particular sets of rules," (Punch, 2005, p. 55) or prestructuring. The researcher uses various measurement instruments as part of a plan to count or scale his or her observations, and thereby impose "numerical structure … on the data ahead of the research" (Punch, 2005, p. 55) analysis phase. For example, a researcher who is studying a given population for trait emotional intelligence (TEI) may employ a noncomparative

scaling questionnaire such as the TEIQue, which will elicit responses from the sample that can be charted on a continuum and, therefore, assigned numeric value (Petrides, 2009; Mikolajczak et al., 2007). These values could prove useful, along with other measures, for a quantitative-descriptive project on TEI.

Qualitative Data

In qualitative research, data refer to shards of perspective, or what researchers sometimes characterize as fragments of a personal story (Ritchie et al., 2003). Rather than being plucked from reality, researchers record these fragments during conversations with people or glean them from an interacting with accounts expressed verbally or in the form of written documents, photos, film, or material artifacts. Consequently, qualitative data involve some level of interpretation, in which the researcher negotiates what is near to the truth (objective) and what is near to personal bias and belief (subjective). The data are partly empirical and based in sensory experience (e.g., observation), but also partly constructed in the mind, which draws on existing schema (e.g., concepts, social relations, sociocultural categories) to weave together bits of experience and impose order. Contrary to quantitative data, qualitative data are not passive, as they have the power to color the viewpoint of the researcher and ultimately determine his or her perspective on how a phenomenon occurred. Furthermore, qualitative data are not fixed; they can change meaning when juxtaposed alongside other data, responding to a different context. This is why social scientists sometimes distinguish qualitative data as “soft data” in comparison to the “hard data” of quantitative research (Olsen, 2012)

Population and Study Population

Qualitative research endeavors to understand meaning in a social context and, therefore, draws its data from meaning-making entities such as people and the products they craft, namely current institutional or programmatic materials; archival documents, films, and photos; artifacts of material culture; and so forth. Doctoral learners may think of these as sources of data rather than populations of interest, but they qualify as both. The population of interest, sometimes called the general population, represents a mass of human perspectives requiring sorting for relevance by the researcher. What form these perspectives take is far less important than their ability to shed light on a social phenomenon. In ethnographic studies, for instance, perspectives frequently take the form of visual images or material artifacts (LeCompte & Schensul, 2010; Ritchie et al., 2003). In content analyses, on the other hand, perspectives take the form of textual documents drawn from archival or current program sources. The population, in this sense, could be whole documents, paragraphs, or even individual sentences or words (Hsieh & Shannon, 2005).

For most qualitative designs, however, the gold standard for obtaining insight into the meaning and context of a phenomenon is people. In contrast to texts or images, people have the unique ability to elaborate in exquisite detail at the behest of the researcher, who can pick-and-pull information as part of an interview or focus group session. Moreover, human beings come with certain built-in features that are of value to qualitative research, most notably, a sense of historical chronology, assumptions about sociocultural or institutional power relationship, and biases developed during prior experience. These features are heavily subjective and tend to add a level of diversity to an otherwise similar population.

Identifying which people to study is often a major stumbling block at the proposal stage. A newcomer to research might target a specific population because of its likely familiarity with his or her social phenomenon but forget to consider whether the population will be identifiable through a recruiting process. In Sally’s case earlier, she sought to study psychological resilience in recently unemployed adults but took for granted her ability to be able to identify adults with resiliency progression. She might target adult support groups in a nearby metropolitan suburb, thinking such groups are likely attended by individual(s) coping with job loss. However, she still has the dilemma of screening for a mental state that many people struggle to identify and doing so in an environment (the support group) where people are often reluctant to volunteer information to outsiders. Sally’s solution might be a two-pronged recruiting approach: introduce a screening questionnaire to

weed-out support group attendees who are not closely connected to job loss, the resilience process, or both and solicit the services of a contact at the support agency (perhaps one of the group mentors) who can help Sally target groups with higher job-loss issues, increasing her chances of success.

Target Population

Sally's logistical consideration is just one of a host of factors researchers must consider when choosing a study population, or what is also called the **target population** (see Table 6.2 for a list). Most researchers start by outlining the basic inclusion criteria for the population; meaning, those qualifications that make certain groups more likely able to describe the phenomenon and hence more likely to address the research problem/answer the research questions. In the hypothetical study of resilience, the inclusion criteria allow for adults over the age of 30 who lost employment in the last six months and remain out of work, joined a support group in a nearby metropolitan suburb within the last six months, identify their purpose as seeking resilience, and successfully pass a screening questionnaire on resilience.

Table 6.2

Factors in Choosing a Population

Saturation Considerations
• Can I find a population with insight into my social phenomenon, allowing me to address my research problem?
Volume Considerations
• Can I find a population that has sufficient volume to ensure insight into my phenomenon as well as a sufficient sample size?
Conceptual Considerations
• Do I want to find a population in which the individuals embody a theory or set of concepts, allowing me to conduct theoretical sampling? • Can I find a population that fits within the boundaries of my case unit?
Logistical Considerations
• Do I have the resources to access/conduct research on a relevant population? • Do I have the time to access/conduct research on a relevant population? • Will I have trouble identifying the population during the recruiting/sampling process? • Will I have a site-based contact who can help me form a sample frame? • Will I face high attrition rates after forming my sample?

Note. Adapted from *Designing and Conducting Ethnographic Research: An Introduction* by M. D. LeCompte & J. J. Schensul, 2010.

Sampling

For practical reasons, social research cannot be carried out on populations as a whole. The researcher's resources are too limited, and the population is too ephemeral in nature. It would be like a biologist attempting to study a living organism one cell at a time. The organism will change substantially before the researcher observes even half the cells, leaving the biologist with an unfulfilled data set. Working around this dilemma, biologists sample blood or tissues, while social scientists draw on human samples from the population at large (Ritchie et al., 2003). Patton (2002), one of the country's most accomplished sampling authorities, described the difference between quantitative and qualitative sampling as one of logic. The former approach, according to Patton (2002), is wedded to random (probability) sampling, while the latter is partial to nonrandom (purposive) strategy. Quantitative researchers tends to use the random approach to generalize about a population, whereas qualitative researchers tend to use the purposive approach to learn about individuals and their context (Patton, 2002). Qualitative practitioners do have a process called *analytic generalization*, whereby they extend their research findings to a wider theoretical plane of debate, but this is much different from statistical generalizing (Curtis et al., 2000; Miles & Huberman, 1994). The difference between quantitative and qualitative sampling strategies is a factor that doctoral learners must consider prior to selecting their methodology, design, and sources of data.

Data in Qualitative Studies

Qualitative research is inductive, going from the specific to the more general. It is also open-ended, using pictures, stories, and verbal perceptions rather than numbers (Johnson & Christensen, 2014). This form of open-ended research involves asking participants about certain aspects and experiences within their lives (Austin & Sutton, 2014). There are a variety of types of **data** used in qualitative designs as the researcher attempts to discover why and the how rather than the what of a phenomenon. The phenomenon is studied in its natural context, often over a period of time, rather than as a snapshot at some given point. Careful consideration of data sources is merited because the researcher's goal is to describe, in detail, the topic under study.

Relevant data form an information base from which the researcher draws answers to the research questions. In dissertation research, researchers may use more than one type of data gathering method in studying a phenomenon and often employ triangulation to foster trustworthiness. For example, researchers may use questionnaires and interviews to collect data. **Triangulation** is particularly valuable because the specific strengths and weaknesses of each research strategy and the method of inquiry affect the findings. The researcher, seeking to develop a strong overall study, employs more than one method of data collection, using primary and sometimes secondary data (Babbie, 2011;).

Primary Sources

Primary sources are those that the researcher collects. Primary sources are original documentation of an event or discovery (Mason, 2002). Examples of primary sources for qualitative research include interviews, focus groups, observations, and questionnaires. Some of the most common primary qualitative tools/instruments in the field used to collect data are interviews, focus groups, and participant observations (Moser & Korstjens, 2016). Interviews, focus groups, and questionnaires are among the most common sources GCU doctoral learners use.

Interviews

Interviews are a common method of obtaining data in all qualitative studies and are often the most preferable data collection source when the researcher is trying to understand a phenomenon (Corbin & Morse, 2003). Interviews are the most recognized data source with qualitative designs as they afford the researcher opportunities to explore matters that are unique to the experiences of the interviewees; allowing insights into how different phenomena of interest are described, experienced, and perceived (Cormac et al., 2019).

The distinctive characteristic of interviews is social interaction that takes place one-on-one in a setting determined by the researcher (Seidman, 2013). Even in a convenience sample, in which the researcher conducts walk-up interviews with people on the street, the setting is chosen by the researcher. The goal of any interview is to capture data from participants by asking questions and encouraging them to respond verbally describing their experience. Interviews are by far the most commonly used data source within qualitative social research but are also the most heavily skill-based. They take significant practice (often in the form of field testing) to ensure that the gathered information is sufficiently robust and descriptive, and even then, researchers find that skill must be cultivated over time with additional experience.

Interviews can be set-up in structured, semistructured, or unstructured formats (Mason, 2002). The structured format involves the administration of standard sets of questions to all participants and does not allow deviation from the scheduled set. Structured interviews often rely on close-ended questions, which only allow responses from within a confined set of categories. There can be no free-form dialogue or conversation, whereby the researcher poses follow-up questions, or organic exposition from the participant on questions (Mason, 2002; Seidman, 2013).

Many researchers find it useful to strike a compromise, employing a semistructured interview format (Seidman, 2013). Semistructured interviews are in-depth interviews in which the participants answer a preset or developed set of open-ended questions, but the researcher is allowed to deviate from that set when desired in order to ask important follow-up questions. The researcher can also pose his or her questions out of order, so long as each participant has the chance to answer them. There are, of course, many other variations built upon the semistructured approach. For example, researchers might choose a narrative interview subgenre in which the participant relays a story and then addresses various follow-up questions (Flick, 2009).

Unstructured interviews are designed for maximum flexibility; they allow the researcher to create questions on the spot, as part of an open dialogue with the participant, and then generate follow-up questions based on the direction and context of the participant's replies. To be precise, an "unstructured interview resembles a conversation more than an interview" (Jamshed, 2014, p. 87). These interviews rely on open-ended questions, which prompt the participant to elaborate in detail rather than simply replying "yes" or "no." Given this flexibility, unstructured interviews are more likely to unfold like conversations and are also more likely to lead to unique encounters with participants.

Bias in Interviews

The risk of bias is high in interviewing and varies inversely with the structure of the method increasing as the amount of structure decreases. With that in mind, the researcher must strive to avoid **interviewer effect**, an influence on an interviewee's behavior or response that results from the conduct of the interviewer rather than the actual thoughts or beliefs of the respondent. Answers to the same question may differ simply due to the presentation of the question. Interviewer effect takes many forms. It can be the result of a subject's desire for approval from the researcher, the personality or style of the researcher, or the manner of questioning employed. A given interviewer may ask the same question differently from one day to the next or in different contexts (Adler & Clark, 2010).

Related to interviewer effect is the act of recording interviews as the awareness of a permanent record of the discussion can create discomfort for some subjects. There is also the issue of privacy. For example, a subject may answer a question differently in the presence of a spouse or parent than when alone. It is important to realize that while interviewing can be a very effective way to obtain valuable data, it is also time-consuming and, if done by a professional interviewer, expensive. Carefully planned interviews are valuable in limiting the costs in time and money that may be involved.

Focus Groups

Closely aligned with interviewing is the use of focus groups. A focus group is basically an expansion of the unstructured or semistructured interview formats, inviting multiple individuals to engage in group discussion on the phenomenon. These sessions typically "bring together people who have preexisting ties (e.g., family) or shared characteristics (e.g., university students) that are of interest to the researcher" (Gibson & Riley, 2010, p. 61). Focus groups are facilitated by a researcher or moderator and include multiple participants. The role of the researcher or moderator is to effectively facilitate the focus group by ensuring that all participants have a voice and partake in the discussion.

As a primary source of data, focus group sizes are important. Focus groups typically consisting of between five and 15 people; however, the optimum size for a focus group is six to eight participants (Gill et al., 2008; Stewart & Shamdasani, 1990). The size of the focus group is a key component to ensuring manageability of the interviews (Vaughn et al., 1996). The setting for a focus group should be free from distractions. In like manner with interviews, focus groups should be recorded and oftentimes videotaped (Cormac et al., 2019).

The focus group can involve structured, semistructured, and unstructured interview techniques and is an efficient means of gathering data, as the researcher has more than one person in a location at the same time. Political researchers commonly use focus group data. The focus group may view a political debate and then be interviewed by the researcher. "How many of you are more likely to vote for Candidate X after seeing this debate?" is a common focus group question in political research. Focus group research, however, applies to the study of a wide spectrum of phenomena. Babbie (2011) cited Trepagnier's *Silent Racism* (2007) as an example of using focus groups.

There are many advantages in using focus groups. They allow for rapid gathering of real-time data. Often, information emerges from the focus group method that the researcher does not anticipate. It is important to realize that there is very little control in focus group interviewing, and the data may not be easy to analyze. Moreover, it takes particular skill to moderate a focus group. There is always the risk of **groupthink** resulting from the dominance of specific outspoken members in addition to the risk of disruptive discord among the participants (Babbie, 2011).

Questionnaires

The use of questionnaires can be a relatively quick and inexpensive way to collect data, depending on the type of questionnaire used. Self-administered questionnaires can be in pencil-and-paper, computer-assisted, or even web-based formats. The method used will depend on cost, size of sample, and **response rate**. Mailed questionnaires have long been used. The U.S. Census, for example, is conducted via mailed questionnaires. Use of mailed questionnaires is relatively inexpensive and has some unique advantages. People are familiar with them; are able to complete them in privacy, away from social pressures; and are not under tight time constraints in completing them (Adler & Clark, 2010).

A major concern with questionnaires is always response rate. Link et al. (2008) reported that response rates can be higher on mailed questionnaires than attempts at telephone interviews, but according to Shih and Fan (2008), the range is wide for mailed questionnaires. Rates can range from 10% to 89% depending on a variety of factors. For the descriptive design using mailed questionnaires, it is wise to send out as many as 300 questionnaires should the response rate be only 10%. For example, if one were to study the nature of complaints by customers of a cable company, the researcher could mail questionnaires to 300 persons who have contacted the company with a complaint. Obviously, individually administered questionnaires are ideal for a high response rate. For example, a researcher might use the location of an event pertinent to the topic of the research and find appropriate respondents there.

Instruments

Sometimes numerical data derived from instruments are used in qualitative studies. Often, researchers locate already established **Likert scale** instruments that measure the constructs being studied. When choosing from published, existing instruments, doctoral learners need to search for those that are valid and reliable and have

been used in research studies published in peer-reviewed journals. Ultimately, the researcher needs to ensure that the survey or instrument will gather data to answer the research questions and understand how the instrument is scored. Often Likert scales have several domains, each measuring different constructs. Each domain is scored and then an overall score is computed. Descriptive statistics, such as mean scores (averages) and percentages are most often used to describe the data. Other descriptive statistics used may include the median (middle score) or mode (the most frequently occurring score). Doctoral learners should always secure written permission from authors to use pre-existing instruments or sources of data. These letters are placed in the appendix of the dissertation.

Observations

Although **observation** and **field research** both employ interviews and questionnaires focused on obtaining answers to specific or general questions, the two differ notably as observation occurs in a natural environment. For example, a researcher may want to study reactions of fans to defeats sustained by college football teams on their home fields. The researcher could do this in the stadium, at popular bars, or at certain campus facilities. In any case, the researcher is unlikely to be noticed and is confident that he or she is in no way influencing the fans' behavior. Adler and Clark (2010) suggested that the major value of observation stems from its ability to give the researcher a direct view of behavior. This clearly distinguishes observation from interviews and questionnaires. When a researcher interviews self-acknowledged fans about their behavior after viewing a home defeat of their favorite team, the researcher commonly receives filtered rather than accurate responses. In situations like the above, the observation is unobtrusive, the researcher's involvement in no way intrudes on the people being observed and should not alter their behavior.

Qualitative researchers can also use participant observation from situations in which they become part of the group of people being observed. Among the most famous examples of participant observation research is that of Lebow (1967) in his classic book, *Tally's Corner.* The book, which emerged from Lebow's PhD dissertation, is an example of **ethnomethodology**, the study of a culture or group from the inside, through the eyes of the members. This usually requires the researcher to be a part of the group, hence indulging in participant observation. Lebow wanted to study African American poverty among street people in Washington, DC. He posed as a poor street person and gradually became a member of the inhabitants of a street corner in a poor area of the nation's capital.

The value of participant observation lies in studying a phenomenon from the inside, through the worldviews of the culture or group being studied. There is, of course, the risk of the researcher affecting the behavior of the participants. In Lebow's study, the white researcher spent a year and a half on the corner, eventually being accepted by the African American men. Observation is inexpensive and very effective in researching topics about which the scholar knows little. Lebow's study is an excellent example. It is also valuable in studying sudden social change, as in the case of life in New York City immediately after 9/11. Though a participant observer, the researcher is able to get data from a natural setting in real time (Adler & Clark, 2010).

Field Notes

Data come from many sources, some more informal than others. In some instances, records of observations cannot be recorded systematically as they occur. In these cases, the researcher makes qualitative notes during or, more often, after observation. These are especially helpful in situations in which the observation requires the researcher to be unobtrusive. In participant observation in which the researcher does not wish to be identified, field notes can serve as valuable data. There are, however, some concerns in using this method. After-the-fact notes are always subject to memory, which can often be selective. Moreover, the researcher's bias can also influence the researcher to recall certain things based on expectation and interpretation. Time is a crucial factor in field notes. Notes recorded soon after an event are more likely to be accurate and complete than those recorded further from the event. It is especially important in field notes to attempt to record evidence in as objective a fashion as possible, staying with observable facts rather than perspectives or

analyses (Johnson & Christensen, 2014). While field notes can offer good information for a qualitative study, GCU dissuades doctoral learners from using this as a source in dissertations because of the paucity of information they often produce for novice researcher.

Secondary Sources

Generally secondary sources of data are sources which relate to the past, or existing information that has already been obtained (Gill et al., 2008). In simple terms, secondary data already exist. Secondary data sources are used for qualitative research to support and offer further information to supplement primary sources of data in order to help answer the research questions (Fielding, 2004; Tate & Happ, 2018). Examples of secondary sources include archival data, surveys, internal records, government publications, websites, statistics, videos, letters, diaries, historical data, test scores, meeting minutes, strategic plans and such. Secondary data sources, such as field notes, archival meeting minutes, or any recorded notes helps to produce rich descriptions of human experiences within a social context (Tate & Happ, 2018). Together, primary and secondary data provide the thick, rich description desired in qualitative studies. Interviews, though, are almost always the primary source of data in qualitative research.

Although there are several types of qualitative data to be gathered, their purpose differs based on the type of design the researcher selects. There are requirements for the type and volume of data to be collected in each design. Interviews commonly comprise the primary source of data collection in qualitative studies complemented by other sources such as questionnaires, focus groups, or field notes. In addition to recommending specific qualitative research designs, GCU requires specific types and volumes of data to ensure that novice doctoral researchers gather enough information to answer research questions and address the stated problem under study.

Aligning Sources of Data with Different Research Designs

There are five qualitative designs that GCU recommends. These include the qualitative descriptive, design phenomenology, narrative inquiry, case study, and grounded theory. While the designs were discussed in detail in prior courses and chapters, Table 6.3 presents a concise summary of the purpose and sources of data for each design.

Table 6.3

Sources of Data for the Five Qualitative Designs

Design	Design Description	Source of Data Collection
Qualitative Descriptive	Studies the who, what, and where of events with the intent to develop a clear and simple description of the event as a phenomenon. A poorly understood phenomenon is described at a manifest, overt level.	• Uses two forms of qualitative data collection. Primary source of data must be 10–15 individual, in-depth, semistructured interviews, with a second form of data collection, such as observations, focus groups, or questionnaires (closed-ended, open-ended, or mixed). • Demographic questionnaires that profile the sample, but do not answer RQs, are supplemental to the required two sources for this design.
Phenomenology	The essence of human experience with a phenomenon as lived in a way that it is unique to each individual.	• In-depth, semistructured interviews are the primary data collection tool. • One data source (interviews) is needed, but these may be combined with other qualitative methods of data collection (e.g., observations, reflective documents) to enhance understanding of the experience. • Probing strategies to elicit depth in responses is paramount. Probe adds to the answer. Tell me more. What does that mean? Give me an example.

Narrative Inquiry	Stories are told by the participants to the researcher with the intent of creating a unified narrative or story that describes or explains a life episode (from humanities). The purpose of the research is to have the participants share the story. The researcher asks follow-up, clarifying questions in order to fully explore the narrative. The researcher does not interact and share his or her own story.	• Ideal method of data collection will be semistructured interviews with in-depth probing. Protocol offers questions that get the participant to tell his or her personal story regarding a phenomenon, including the social roles and relationships of all people who might be involved in the narrative (set the context). • The researcher may use timelines as a source of data to understand the chronology of events but should then engage in in-depth facilitation strategies to elicit as much detail as possible around the timeline/chronology of events within and across the stories. • Narrative facilitation events (i.e., interviews) should last between 60–90 mins

Case Study	An in-depth investigation of one or more cases that will triangulate to achieve holistic description. Study of a case that is in depth because it uses three or more sources of data to understand the phenomena in its complexity.	• Minimum of three data sources should be collected to answer the RQs. This excludes data sources collected for purely demographic purposes (e.g., demographic background questionnaire) because these profile the sample but do not answer the RQs. • Commonly used sources are interviews, focus groups, qualitative (open-ended, or closed-ended) questionnaires, journals, and archival documents. • Data sources may include a mixture of qualitative and quantitative-oriented data collection instruments in which *quantitative-oriented* denotes the use of Likert scale questionnaires or other scaled/structured devices to help complete a holistic description or narrative account (the bulk of which is told through the primary source, e.g., interviews or focus groups). • Quantitative instruments must be shown to address the RQs.
Grounded Theory	A theory or model is developed to describe the phenomenon as a concept, process, interaction, component, or action (from sociology). Studies done at GCU usually produce a model in the form of a graphic organizer to be used in practice but grounded in evidence.	• Involves multiple stages of collecting data often using multiple approaches and multiple groups. • Typically includes iterative interviews, observations, document collection, and questionnaires with various groups. • Data are collected until saturation is achieved, denoting lengthy periods of time in the field.

Choosing a Data Source

There are several considerations when determining the approach to a qualitative research project. The key components of the study must be aligned, and the researcher must clearly define the phenomenon to be studied. The design selected must yield the data required to answer the research questions. Multiple approaches to data analysis should be considered to effectively describe the phenomenon being studied.

After selecting the design, the sample size and sampling approach should meet the specific requirements for both the selected design and the selected data analysis approach. Additionally, the researcher should consider the timeline for the study including the approvals needed from both the organization where data will be collected and the Institutional Review Board (IRB), and garnering informed consent from the participants.

Alignment

Alignment is fundamental to sound qualitative research. The researcher must take particular care to ensure that the topic, theoretical foundation, problem statement, research questions, and research design are compatible and flow in a smooth, consistent pattern. Misalignment of these elements is a common error in dissertation research, so learners should practice aligning them by stating each of these elements in a sentence or two and then verifying that the concepts in the sentences align with one another. For example, a learner seeking to study the possible influence of collaborative teaching on the morale of a school staff may enter the following research question: How does collaborative teaching influence the learning of elementary students? Misalignment is evident, as the topic is teacher morale not the learning of a group of students. A better question might be: How do teachers perceive that participation in collaborative teaching influences their morale?

Clear Problems

Problem statements need to be clear and concise because they provide both the context for the study and the rationale for the research in terms of its value to both the discipline and the practitioner. A clear problem statement also highlights a gap between what actually exists or is occurring and what should exist or be occurring. Problem statements need to be clear and concise. The following example demonstrates an unclear and ambiguous problem statement: It is not known how the skills and pledges involved in the Smith (2008) model influence lesson planning and course implementation for educators teaching in nursing schools operating under the Smith model and its Six Guidelines and Eight Pledges. A better way to express this statement might be: It is not known how nursing school instructors perceive that use of the skills and pledges of the Smith model influences lesson planning and course implementation.

Clear Research Questions

The research problem is central to the study. As such, the research questions are directly related to the research problem and the intended outcomes of the study. Meaningful research shows a clear connection between the research questions and the problem that prompted the study (Kerlinger & Lee, 2000). Research questions flow from the problem statement. The research questions emanate from the problem statement. In any qualitative design, the researcher necessarily develops two or more research questions. GCU aligns to this generally accepted necessity and requires all qualitative dissertations to have at least two research questions. In some instances, learners who are knowledgeable and excited about a topic might have a larger number of questions in mind. In this case, it becomes important to consider limiting the number of research questions in a study because each question involves separate research. Hence, a project with four questions could entail approximately twice as much work as one with two questions.

Dissertation today, save the world tomorrow!

So, while a dissertation researcher wants to do a complete effort in collecting data and answering questions, he or she must lend caution to the boundary and scope of any topic studied. Although research questions are usually more general in qualitative than quantitative designs, the questions must carefully address the phenomenon being researched from the point of view of the subjects in the study. Qualitative research questions are open-ended, tighter, and more focused expressions of the general problem statement.

Clearly Defined Terms

Defining terms is necessary in doing any research, particularly in qualitative designs where abstract concepts are common. Often, researchers assume the reader understands discipline-specific **jargon**. In addition, some words have different meanings depending on the context in which they are used. For example, triangulation often refers to a “two against one” situation when applied to human relationships, while in research it refers to data collection. More specifically, triangulation refers to using multiple sources of data to compare and corroborate findings.

Related to the matter of defining terms is the use of acronyms. An educator may instantly understand NCLB as No Child Left Behind, while the noneducator may not. It is important to write out all terms fully when used the first time followed by the abbreviation in parentheses. Whenever possible, terms should be defined operationally. An **operational definition** is one in which a variable, for example, is defined in measurable terms (Yin, 1994). Though operational definitions are basic to quantitative research, they are also important in qualitative projects. For example, if a researcher is studying how in-service trainings influence the performance of veteran elementary teachers, the researcher should operationalize the meaning of veteran teachers as used in the study. In this case, years of service suffice to operationalize the term. The researcher could further clarify to establish 5 or more years of teaching experience as the operational definition for the term veteran teachers.

Saturation in Data Collection

Qualitative data collection needs to reach the **saturation** point—the point at which no new information occurs related to the research questions studied. The importance of this to qualitative research resides in the desire of the researcher not to operate with samples so small that pertinent information remains undiscovered. There are guidelines on sample size for each design aimed at reaching the saturation point. Upon completion of data collection, focus becomes critical as the researcher needs to retain all information relevant to the research problem and discard the excess.

Clearly Defined Qualitative Designs

Researchers should take care to not amalgamate qualitative designs. This is a common error among doctoral researchers. A doctoral researcher might propose a qualitative phenomenological case study; however, a case study and a phenomenological qualitative study are two distinctly different designs. A major goal of good research is clarity. Mixing designs creates uncertainty that affects the sharpness of the findings.

Skills Needed to Conduct Interviews and Focus Groups

In order to collect data in qualitative studies, researchers require several skills in order to capture rich data from study participants. It is important that researchers be familiar with his or her research. To start, the creation of interview questions should not include assumptions or bias. For example, instead of stating a question starting with "But don’t you think," one should ask, "What do you think." Interview questions should be related to the topic of study and address the research questions (Kolen & Brennan, 2004). Once the interview questions have been created, the researcher should then conduct a field test administering a practice interview of the target population for intended research (Kolen & Brennan, 2004). Once the field test has been administered and study participants have been selected, the researcher must identify how he/she will conduct the interviews. For example, one should decide on the modality (e.g. via Zoom or in person), time of the interviews, and whether the interviews will be recorded. Once the time, place, and modality of the interviews have been established, the researcher must clearly express to the participants the purpose of the interview (Fontana & Frey, 2000) and be friendly and courteous to the participants as the interview process begins.

In order to conduct a focus group, there are several things to consider before scheduling the meeting. Glitz (1997) noted to keep the group number small in order for the facilitator to manage the meeting. The next step needed is to consider the timing and venue. Fontana and Frey (2000) noted to ensure that the participants are in a comfortable setting that is free from distraction as well as having the time needed to engage in rich discussion. As with interviews, asking open-ended questions along with all participants contributing to the discussion is a required skill for focus group facilitation. Glitz (1997) recommended that the facilitator practice asking predeveloped focus group questions and learn how to use probing questions if need be.

Avoiding Bias

Avoiding **researcher bias** is another major concern in qualitative research. Pannucci and Wilkins (2010) described bias as "any tendency which prevents unprejudiced consideration of a question" (p. 619). When collecting data, the researcher asks mostly open-ended questions, which establishes a foundation for the participants to reply in their own words, which can help prevent bias. The researcher must adopt a mindful, empathic, and neutral stance when interacting with participants and listening to their responses (Patton, 2002). When designing questions, it is important to consider how the questions are worded. For example, asking a pointed question such as "Why do you think online assessment is wrong?" could produce a biased set of responses (Adams & Cox, 2008). To prevent potential bias, providing definitions of examples beforehand is a useful way to overcome potential problems, especially when the same interview questions are asked to all participants (Adams & Cox, 2008).

Qualitative researchers must consider their own biases and methods of dealing with those biases (Rajendran, 2001). Often, the researcher exercises **bracketing**, a process of mental preparation whereby one sets aside his or her own prior knowledge and experiences regarding the phenomenon in order become attuned to the input of participants. Another strategy used is reflexivity.

In qualitative research, **reflexivity** is a very important concept, as it entails the examination of the researcher's beliefs, practices, and judgments during research (Finlay, 2002). There are five variants of reflexivity that Finlay (2012) noted, which are dependent on the type of research that is being conducted in qualitative methodology. The five variants of reflexivity include introspection, intersubjective reflection, mutual collaboration, social critique, and discursive deconstruction. Reflexivity as introspection refers to personal inward reflections and self-dialogue. Reflexivity as intersubjective reflection refers simply to reflection in which "researchers explore the mutual meanings emerging within research" (Finlay, 2002, p. 215). The focus is on the researcher and participant and involves inward and outward meanings of what is being stated during the interview. Reflexivity as mutual collaboration pertains to the researcher and participants using a reflexive dialogue during data collection, whereby the dialogue in group settings allows participants to move beyond preconceived theories and biases. Reflexivity as social critique refers to how the researcher manages the imbalance of power between researcher and participants. Finaly (2002) noted much of social critique relates to the researcher being knowledgeable of the phenomena they are studying in qualitative research and how important it is for the researcher to acknowledge potential bias during data collection. Finally, in reflexive as discursive deconstruction, much attention is paid to the interpretation of meanings in language and phrases, which impacts how the researcher poses questions and interprets participant responses.

Researchers must also consider the bias inherent in questionnaires and interview questions because these items reflect the positions and interests of those who created them (Rajendran, 2001). Regardless of bias, which is inherent in any qualitative study, the data collected must be valid and reliable. Researchers employ several methods to mitigate bias, including the use of multiple sources of data, member checking of interview transcripts, researcher field notes, and an audit trail (Rajendran, 2001). Using the example of collaborative teaching mentioned above, a learner might ask in a research question: How does collaborative teaching benefit teacher morale? This research question is biased because it assumes a positive connection between collaborative teaching and morale. In research, assume nothing. A better research question would be: How do teachers perceive the way collaborative teaching influences teacher morale, if at all?

Conclusion

The big picture that doctoral learners should take away from this chapter is that qualitative research is a growing tradition with the social sciences that, while embracing empiricism, sets itself apart from quantitative investigations with its inductive approach and attention to human perspectives. The title *qualitative* signifies a scientific endeavor to understand the richness and complexity of social phenomena through the personal experiences of those who lived them. Working toward this goal, the qualitative researcher is compelled to rely on an epistemology that is an alternative to that used by the quantitative researcher; he/she must be willing to interpret or construct the experiences as they are communicated, which of course implies that the data will have some degree of subjective input. The focus of qualitative research questions tends to be on the "how" or "why" of a phenomenon and is oriented toward a discovery of meaning rather than causal explanation or objective measure. Consequently, the most common sources of data in qualitative research tend to be those focusing on language and words, such as interviews, focus group sessions, reflective essays, archival documents, and questionnaires. Doctoral learners will hopefully recognize that these sources are not transparent windows into a singular reality, but rather, channels of interpretive dialogue though which the researcher negotiates what is meaningful within a local setting.

Check for Understanding

1. What are qualitative data?
2. Why do qualitative researchers need to reflect on their philosophical assumptions?
3. What does operationalization of the phenomenon mean?
4. What are the most common sources of qualitative data?
5. What is the difference between primary and secondary sources?

Answers

"hard," holding the same information no matter how they are permutated. Qualitative data are "active," having the ability to influence the researcher during and after the act of data collection, whereas quantitative data are "passive," totally manipulable within the human mind after sensed.

2. Qualitative investigators are best served to reflect about their philosophical assumptions form the outset because it helps reveal what sort of ontology and epistemology they are inclined to embrace and, therefore, what sort of methodology and instrumentation will further their research. Such reflection has the benefit of saving the researcher significant time and resources by preventing a wasted investment in poorly suited methodology or instrumentation.
3. Operationalization means to articulate and, therefore, make useful the phenomenon under study, causing it to be intelligible and meaningful in the minds of the research participants (as well as other research scholars). Nonoperational phenomena lack this clarification and are, therefore, incapable of generating rich and voluminous description, which are the lifeblood of qualitative research.
4. While qualitative research is marked by a great diversity of data sources, matching the varied strategies of data collection in the qualitative tradition, the more common sources are those focusing on people and their words, namely, interviews, focus groups, reflective essays/journals, archival documents, questionnaires, and surveys. However, another key source of data, and indeed one of the oldest because of its roots in ethnography, is field observation.
5. Primary sources are those that the researcher collects. Generally secondary sources of data are sources that already exist and relate to the past or existing information that has already been obtained.

1. Qualitative data are fragments of personal experience, whereas quantitative data are bits of information about reality (or bits of reality reality-carrying stuff). Qualitative data are "soft," adaptable within the context of other data sets, whereas quantitative data are

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