



**Sage Research Methods**

## **Qualitative Data Collection Tools: Design, Development, and Applications**

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# The Qualitative Data Collection Cycle

*Qualitative inquiry, by nature, is a customized, inductive, emergent process.... It means purposely adopting different lenses, filters, and angles as we view social life so as to discover new perceptions and cognitions about the facet of the world we're researching.*

(Saldana, 2015, pp. 3–4)

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## What Is Qualitative Research?

For decades, scholars and researchers have struggled to define qualitative research. Patton (2015), Merriam (2002), and Maxwell (2005, 2013) agree that in its most fundamental form, qualitative research explores peoples' lives, behaviors, emotions, and perceptions. This definition does not, however, take us far enough into the intricacies of qualitative inquiry. From the qualitative, interpretive lens of viewing phenomenon, the focus of attention for qualitative research must revolve around the individual and unique experiences of the participants. As many scholars note, the key question in any qualitative exploration is this: What is really going on here?

It may be useful to consider a variety of definitions as the best way to understand the scope of the qualitative research approach. Denzin and Lincoln's seminal definition is presented as a starting point:

Qualitative research is a situated activity that locates the observer in the world. Qualitative research consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. (2011, p. 3)

Researchers support this definition by adding their own viewpoint, including Patton's (2015) definition that captures the intimacy of interaction between researcher and participant, and Creswell and Poth's (2018) and Saldana's (2015) definitions, which speak to the power of multiple perspectives. The sum total of these definitions implies that qualitative research allows us to uncover the meaning individuals ascribe to their experiences, through close interactions, rich conversations, and multifaceted interpretations.

### Qualitative Research as a Worldview

What do we mean by a worldview when we talk about the different research approaches? Guba's definition (1990) is still the best and most succinct one, noting that a worldview is "a basic set of beliefs that guide action" (p.17). Another way to interpret a worldview is to understand it as a philosophy, a belief about how the world is ordered, or how reality or truth is perceived.

A worldview, then, is described through the lens of five basic assumptions: ontological, epistemological, axiological, rhetorical, and methodological. Each assumption refers to a different aspect of a research approach and references that approach to reality, the researcher's role, values and bias, the use of language, and the orientation for conducting research. In the qualitative perspective, as distinguished from the quantitative or mixed methods approaches, these assumptions are very different. In recent years, qualitative inquiry has been labeled as social constructivist, implying an approach to research that supports the multiple views and perspectives elicited from participants. This label compares with the positivist label for quantitative research that suggests a traditional, empirical approach to research where there is a single truth or reality. On the midpoint of this methodological continuum lies the mixed methods pragmatic approach, which combines the strengths of quantitative and qualitative methods into a single research study (Guba, 1990; Lincoln & Guba, 1985).

With regard to qualitative research, it is important to clarify the worldview assumptions in order to understand the nature of the inquiry. First, as the ontological perspective refers to the researcher's view of reality, the qualitative researcher positions reality as subjective, incorporating the multiple realities represented by participants. Second, the epistemological assumption refers to the researcher's role, which is intimate and interactive in qualitative studies (otherwise labeled as the "researcher as the data collection instrument"; Denzin & Lincoln, 2003). Third, the axiological assumption refers to the values in the qualitative approach, which are inherently biased and subjective, focused on the particularity of the case (Stake, 1995). Fourth, the rhetorical assumption refers to the use of language in qualitative inquiry, which infers that language is often framed in the first person, as a story or direct experience, and is informal, descriptive, and personal. Fifth, and finally, the methodological assumption refers to the naturalistic process for conducting research, which is inductive, holistic, and depends on triangulation of multiple data sources to corroborate findings. This overview of the worldview assumptions leads to a summary of the characteristics of qualitative research (Bernard, 2013; Bogdan & Bilken, 2003; Czarniawska, 1997; Stebbins, 2001).

## Characteristics of Qualitative Research

Qualitative research is distinguished from the quantitative or mixed methods approaches by a grounding in the social constructionist worldview described previously. Scholars identify a set of characteristics that reflect the qualitative approach, as listed below (Creswell & Poth, 2018; Maxwell, 2013; Patton, 2015).

### *Natural setting*

Research is conducted in a natural setting, a setting indigenous to the participants, rather than in a controlled or contrived setting that may be designed to reduce bias or extraneous factors; face-to-face interactions allow participants to provide their perspectives in the same setting where they experience the phenomenon and where it is familiar enough to offset any feelings of isolation or conflict.

### *Purposeful sampling*

Participants are selected intentionally, chosen for their capacity to provide detailed information, based on their unique experiences and perspectives. Qualitative participants are often known as “information-rich” cases (Patton, 2015, p. 53).

### *Multiple data sources*

A variety of data sets, accessed from different participant perspectives and experiences, are intentionally collected and corroborated to provide a holistic picture of an experience or phenomenon. Socially constructed reality, realities derived from the individuals selected for the study, provide the many viewpoints representative of an experience (Weller & Romney, 1988). In this way, verification and triangulation allows for the holistic picture of the phenomenon to emerge.

***Interpretive experiences***

The nature of qualitative data is interpretive, qualified, and expressive, captured in the words, stories, images, artifacts, and behaviors of the participants. Meaning is assigned to every word, story, behavior, and symbol in order to develop a comprehensive profile of the phenomenon.

***Unique perspectives***

The participants' meanings and interpretations are paramount, and their unique perspectives are represented in such a way as to protect the integrity of their views while acknowledging the varied viewpoints of the participants who share in the same experiences or phenomenon.

***Holistic***

Qualitative studies are interpretive and holistic, reflecting and extending the complex picture of a particular problem or issue, and delving deeply into the views and voices of the participants.

***Emergent design***

The qualitative design evolves over the course of the study, a design that is grounded in the researcher's original intuition, prior research studies, and an educated assessment of the phenomenon to be explored. This design process guides the project's development and should be refined and solidified as the study evolves.

***Frameworks***

A theoretical lens or framework often guides the qualitative project. Theory can be applied to a study in order to develop the research purpose, research questions, instrumentation, or to frame the research findings. Conceptual frameworks are often developed to organize and explain how theory is operationalized for the quali-

tative study. The role of theory in a qualitative design differs significantly from its role in a quantitative project, since it is not applied deductively in order to prove or test the theory; however, in the case of grounded theory designs, researchers may use extant theory as a starting point to develop a new working theory grounded from qualitative data or to explore specific elements of a theory from a qualitative perspective. Alternately, in a phenomenological study, the elements of several different theories may be operationalized in a conceptual framework to guide the design and implementation of data collection tools and an interpretation of the findings.

#### ***Researcher as instrument***

The researcher is the primary conduit to data collection, otherwise stated as “researcher as key instrument” (Denzin & Lincoln, 2003), meaning that the distance between the qualitative researcher and the participants in a qualitative study is close, interactive, and openly subjective.

#### ***Inductive exploration***

Finally, the nature of the qualitative research process is inductive, meaning that the study works from “the data of specific cases to a more general conclusion” (Schwandt, 2015, p. 153).

Given these qualitative worldview assumptions and characteristics, a researcher must effectively capture the complex, processual, rich views of participant stories and experiences. Therefore, a researcher must identify the data collection strategies that will uncover these stories and experiences sufficiently and clearly. The bridge that connects the participant voice and the data is the qualitative tool.

### **Qualitative Research Designs**

While there are many variations in the types and labels for qualitative research designs, most scholars would agree on a common cadre of basic designs (Crabtree & Miller, 2015; Creswell & Poth, 2018; Denzin & Lin-

coln, 2013; Maxwell, 2013; Merriam, 2002; Patton, 2015; Silverman, 2013).

### ***Descriptive/Interpretive***

Descriptive/interpretive (the terms are used interchangeably for the purpose of this discussion) designs focus on how participants make meaning of a situation or phenomenon, where the researcher describes the collective experiences and seeks to discover or understand the participants' points of view (Merriam, 2002). This design attempts to answer the question of "What is ... ?" rather than seeking to uncover a lived experience, an in-depth assessment of a process or event, or the narrative story of an individual or individuals. These designs are guided by the question, "How can we understand a participant's experience through his or her self-constructed meaning of the phenomenon under study?"

### ***Phenomenological***

While all qualitative research focuses on phenomenon, phenomenological designs explicitly focus on the essence of the lived experience, grounded in a shared human condition. For instance, the experience of this shared phenomenon may represent the human experiences of trauma, grief, joy, birth, death, illness, or healing. Attempts to deal with the individuals' inner experiences as they live through these phenomena help the researcher uncover the unexplored or subconscious aspects of those experiences. As a result, an "essence meaning" is created by synthesizing the collective lived experiences of participants in an attempt to represent their emotional, psychological, and transformative journeys (Colaizzi, 1978; Giorgi, 1985; Moustakas, 1994; van Manen, 2014). These designs are guided by the question, "What is the essence of the lived experience under study?"

### ***Ethnographic***

With roots in anthropology, ethnographic designs are defined as the substantive, analytical description of an intact cultural group in its natural setting. The researcher conducts field work to observe, record, interact, and dissect the various levels of the cultural activity, with the goal of understanding the how and the why of



a cultural group's purpose and functioning. Akin to cultural analysis, the researcher uses continuous observation and reflection to record virtually everything that occurs in the research field. Participant observation is the most common method, where the researcher can obtain the insider's point of view (Fetterman, 2010; Hammersley & Atkinson, 2007; Schwartzman, 1992; Stewart, 1998; Van Maanen, 2011). These designs are guided by the question, "How can we study, uncover, and understand the intact culture of this group?"

### ***Narrative***

Narrative designs comprise the synthesis of individual stories reflecting an event or series of events, chronologically connected by the researcher. The focus is on the study of one or two individuals, and the meaning of their stories is embedded within the context of a larger phenomenon or cultural context. These stories (often called life histories or life stories) are further validated as an exploration of the social, cultural, familial, linguistic, and institutional narratives within which the individual experiences were constructed. Narratives focus on a unique story as the object of inquiry in order to determine how people make sense of the events in their lives; the researcher's challenge is to create a chronological record of the events from the narrative perspectives and to represent that story as a synthesized product (Atkinson, 2016; Clandinin, 2013; Gubrium & Holstein, 2003; Riessman, 2008). As Riessman (1993) notes, "narratives are essential meaning-making structures" (p. 4). Narrative explorations are often included as subsets of other qualitative designs, such as historical or ethnographic designs (Creswell & Poth, 2018). These designs are guided by the question, "What does this story reveal about this individual(s) and his or her (their) world(s)?"

### ***Case Study***

Case study designs are essentially situational analyses where a particular event, process, or setting is studied from the viewpoints of all key stakeholders. Through this situational analysis, the viewpoints of all stakeholders are integrated; the findings provide an intricate, collective perception that contributes to understanding the phenomenon under study. This deep exploration, where multiple sources of data are collected and corroborated, leads to a comprehensive understanding of how an event, process, or setting emerged, unfolded,

succeeded, failed, or impacted a group or organization. Studying cases from multiple perspectives lends a richness and a multidimensional picture of how people function within organizational or historical incidents. Although some scholars position case studies to include the bounded study of individuals in a particular circumstance (Creswell & Poth, 2018; Patton, 2015; Thomas, 2015), many qualitative scholars refer to case study designs as the study of a process, event, setting, or circumstance bounded by time and context (Hamel, Dufour, & Fortin, 1993; Merriam & Tisdell, 2015; Stake, 1995). Therefore, these designs are essentially guided by the question, “How do stakeholders describe this process or event, and what does it tell us about future practice(s)?”

### ***Grounded Theory***

Grounded theory designs move beyond description to generate or discover an emergent theory, captured in a schema or visual diagram that displays the process that participants have experienced (Strauss & Corbin, 1998). The theory would explain the process, practice, or personal transition that provides the researcher with a framework for further research. The working or emergent theory is grounded in the data that originates from participants who have experienced the common practice, process, or transition (Birks & Mills, 2011; Charmaz, 2014; Clarke, Friese, & Washburn, 2017; Corbin & Strauss, 2015; Glaser, 2000; Glaser & Strauss, 1967; Strauss & Corbin, 1998). These designs are guided by the question, “What theory emerges from the systematic, comparative analysis of data originating from participants sharing the same experience?”

### ***Historical***

Historical designs are not always viewed as a form of qualitative research, but they embody all the characteristics and strengths of the qualitative approach. The historical approach is an analytical one, with various subdesigns (Brundage, 2017; Gall, Gall, & Borg, 2006; Lange, 2012; McDowell, 2013) that focus on specific elements of the guiding question, “How does the analysis of past events or lives of pivotal individuals inform us about the present or future state of things?”

**Table 1.1 Qualitative Research Designs, Guiding Questions, & Design Characteristics**

| Design                   | Discipline roots                                   | Guiding Question   | Characteristics   |
|--------------------------|--|--|---|
| Descriptive/Interpretive | Social Sciences, Humanities, Sociology             | How can we understand a participant's experience through his/her self-constructed meaning of the phenomenon under study?         | Exploring phenomenon from the participant's perspective   |
| Phenomenological         | Psychology, Social Psychology, Philosophy          | What is the essence of the lived experience under study?   | Exploring the lived experience, the essence of combined perspectives  |
| Ethnographic             | Anthropology, Sociology                            | How can we study, uncover, and understand the intact culture of this group?  | Field studies, cultural exploration, and analysis to uncover the layers of meaning and activity within an intact cultural group |
| Narrative                | Psychology, Literature                             | What does this story(ies) reveal about this individual(s) and their world(s)?  | Revelations about key individuals and their personal stories  |
| Case Study               | Psychology Law, Political Science, Health Sciences | How do stakeholders describe this process/event/setting; what does it tell us about future practice(s)?                          | Participant-constructed meaning around a bounded event, process, or setting using multiple data sources                         |
| Grounded Theory          | Psychology, Sociology                              | What theory emerges from the systematic, comparative analysis of data originating from participants sharing the same experience? | Developing working theory grounded in the data where systematic analysis is generated   |
| Historical               | History, Ethics                                    | How does the analysis of past events or lives of pivotal individuals inform us about the present or future state of things?      | The analysis of past events to understand the present or project what might be best for the future                              |

## Qualitative Research Design Applications

When should you use a qualitative research design? According to scholars, there are several instances when the inductive, interpretive approach inherent in a qualitative design is ideal (Crabtree & Miller, 2015; Creswell & Poth, 2018; Denzin & Lincoln, 2013; Flick, 2009; Maxwell, 2013; Patton, 2015; Silverman, 2008):

- To explore an idea or topic
- To explore a process or event or phenomenon
- To gain insight into a group's culture, lifestyle, and history, as well as their motivations, behaviors, and preferences
- To further understand processes or events from multiple perspectives
- To supplement quantitative research findings or support the design of a mixed methods project

Conversely, there are several instances when a qualitative design is *not* recommended:

- To measure, investigate, or examine relationships, differences, comparisons, or causes
- To identify causal relationships
- To conduct an experiment
- To test a theory or a hypothesis(es)

In a research environment that remains predominantly quantitative, and where measurable attributes, causation, and quantifiable findings are acknowledged as reliable facts, qualitative research offers an alternative perspective. The strength of qualitative exploration lies in the holistic, interpretive uncovering of the human experience, reinforced by the stories and meanings individuals give to those experiences. There is much to be gained from this approach, as it leads us to explore how qualitative researchers obtain and integrate qualitative data for research projects.

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## The Sources of Qualitative Data

Where does qualitative data come from? Many new qualitative researchers may assume that participants' words are the only source for qualitative data and that interviews and focus groups are the only way to capture those words. In fact, this narrow view prevails among novice as well as seasoned researchers who have min-

imal experience with qualitative methods. The notion that the sources of qualitative data are rich and varied, and that the strategies for collecting qualitative data include numerous tools and techniques, often surprises individuals who are designing their own qualitative projects.

This overview addresses these perceptions by diagramming the rich, varied sources of qualitative data and the various tools that researchers might use to maximize this research approach. Beginning with a list and description of the qualitative data sources and followed by a list of the tools that researchers can use to capture these data, the qualitative data collection process becomes more transparent. The sources of all qualitative data are derived from the following activities, as outlined in [Table 1.2](#).

**Table 1.2 Sources of Qualitative Data**

|  |  |
|--|--|
| <b>Words, Conversations, Stories</b>         | People orally describe their experiences or perspectives, either alone or in groups  |
| <b>Conversational/Discourse Interactions</b> | Researcher-as-participant/nonparticipant observes and analyzes the meaning of ongoing conversations where people communicate during their social interactions  |
| <b>Synergistic Discussions</b>               | Facilitated, structured group discussions where the researcher guides the group toward coordinated engagement as participants share their perspectives, opinions, experiences  |
| <b>Dyadic Interactions</b>                   | Researcher-facilitated two-person synergistic conversations  |
| <b>Observations</b>                          | Researcher observes and records the nonverbal and contextual behaviors and interactions of individuals or groups in formal or informal settings  |
| <b>Documents and Artifacts</b>               | Researcher reviews, records, and analyzes the meaning of contextual, extant documents, artifacts, cultural materials, and other tactile objects, often to support other data sources; in some cases, the participants generate the documents and artifacts such as in photo voice strategies or through windshield or walking interview recordings |
| <b>Journals, Diaries, Reflections</b>        | Reflective devices constructed by researcher or participants to reflect on the focus of inquiry, to supplement primary data sources, and to debrief from the experience of sharing experiences with a researcher/peers   |

## Qualitative Data Collection Tools

Qualitative data collection is labor-intensive, focused, and complex. As a qualitative researcher, you must plan to immerse yourself in the field for sufficient time to collect extensive data, understand the context for that data, and uncover the nuances of what is occurring. The concept of “seeing versus looking” is an essential skill that qualitative researchers must develop. In addition to what the senses can capture (hearing, seeing, feeling), a researcher must cultivate their sense of intuition and judgment. For instance, what do the nonverbal and contextual clues offer in the way of deeper understanding of the phenomenon?

Given these parameters, it is important to identify the different qualitative tools and the types of data they collect, as outlined in [Table 1.3](#).

**Table 1.3 Qualitative Data Collection Tools**

|                                      |   |
|--------------------------------------|---|
| <b>Interview Protocols</b>           | A range of protocol types linked with specific approaches and research designs, used to guide a conversation  |
| <b>Conversation/Discourse Logs</b>   | Tools to capture the dynamics of conversation and interactions among participants in order to interpret the meaning of those conversations  |
| <b>Focus Group Moderator Guides</b>  | Constructed guides that direct the synergistic discussions of a group, allowing for sufficient structure to guide the conversation but leaving room for the group to direct the sequence of topics  |
| <b>Observation Rubrics</b>           | Tools that help the researcher record information from several different perspectives: what is observed, what is heard in dialogue, reflective notes in a journal from the researcher's point of view, and demographic profile notes about the time, place, and date of the field setting |
| <b>Document and Artifact Rubrics</b> | Researcher or participant constructed documents that allow for the categorization of documents and artifacts in order to compare, corroborate, and analyze that data in the context of a study  |
| <b>Reflective Tools</b>              | Journals, diaries, and reflective questionnaires as tools to collect reflective and reflexive data in a study where the data are either primary or secondary and either generated by the participant or the researcher  |

**Supplemental Tools** Interviewer or focus group recorder sheets, prefocus group profile questionnaires, and other types of data collection tools that support primary data collection in a qualitative study

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## Highlights

Qualitative research defined: Exploration of people's lives, lived experiences, behaviors, emotions, experiences, feelings, perceptions, and interactions

Qualitative worldview: Subjective reality based on multiple perspectives of purposefully selected participants, situated in their natural settings, framed holistically

Characteristics of qualitative research: Natural setting, researcher as instrument, multiple data sources, rich and deep data collection, interpretive and socially constructed, emergent design, inductive inquiry

### The Qualitative Data Collection Cycle

Basic qualitative research designs: Descriptive/interpretive, phenomenological, ethnographic, narrative, case study, grounded theory, historical

Design applications: Exploring an idea, topic, process, event, phenomenon, culture, or life story to provide a unique viewpoint or to supplement other studies

Sources of qualitative data: Words, conversations, stories, synergistic discussions, dyads, observations, documents, artifacts, reflections

Tools for qualitative data collection: Protocols, logs, diaries, journals, notebooks, rubrics, moderator guides, tools

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