Qualitative Data Analysis

Process, Strategies, and Application to Dissertation Research

Dr. Linda Dale Bloomberg

March, 31 2026

Qualitative Data Analysis:

Process, Strategies, and Application to Dissertation Research.

An Open Access Resource Developed and Prepared for National University

Dr. Linda Dale Bloomberg

Full Professor, National University

Bloomberg Associates, Research and Consulting

TABLE OF CONTENTS

Author Biography.....5

Author's Introduction and Note to the Reader.....6

Introduction to This Resource.....8

Conducting Qualitative Data Analysis: The "Human Touch".....10

Cautionary Use of AI in Qualitative Data Analysis.....10

Analyzing Qualitative Data: An Overview.....14
The Analytic Process
Centrality of Transparency
Application to Dissertation Research

Preparing for Data Analysis.....18
Data Management Strategies
Developing an Analytic Mindset
Application to Dissertation Research

Use of Computer-Assisted Qualitative Data Analysis Software.....20
QDAS Benefits
Choosing an Appropriate Program
Application to Dissertation Research

Inductive, Deductive, and Abductive Analysis.....23
Inductive Analytic Approach
Deductive Analytic Approach
Abductive Analytic Approach

Coding Guidelines.....26
The Essence of Coding
Coding Strategies
Application to Dissertation Research

The Concept of Data Saturation.....31
Understanding Qualitative Data Saturation
Underlying Principles
Application to Dissertation Research

Thematic Analysis.....33
Type of Qualitative Themes
The Analytic Process
Application to Dissertation Research

Additional Qualitative Analytic Options.....36
Qualitative Content Analysis
Discourse Analysis
Visual Analysis
Application to Dissertation Research
Data Analysis and Interpretation of Findings.....41
Interpretation Defined
The Interpretive Process
Application to Dissertation Research
Qualitative Design Distinctions.....45
Overview of Qualitative Research Designs
Analytical Approaches
Case Study
Ethnography
Grounded Theory
Phenomenology
Narrative Inquiry
Action Research
Application to Dissertation Research

Function of the Dissertation's Analysis Chapter.....49

Seeking Patterns and Themes
Description and Interpretation
Centrality of Synthesis
Quality Markers for Dissertation Research

Ensuring Rigor, Transparency, Trustworthiness, and Ethics.....54

Researcher Credibility
Reflexivity
Cultural Integrity
Value of Reflective Journaling
Value of An Audit Trail
Value of a Positionality Statement

References.....62

AUTHOR BIOGRAPHY

Dr. Bloomberg, widely acclaimed for her expertise in qualitative research, carries the title of full professor of education in the Sanford College of Education at National University, where she has served for over 13 years as dissertation chair and subject matter expert for doctoral candidates. She is a cofounder of Columbia University's Global Learning and Leadership Institute, and previously served as senior researcher for the South African Human Sciences Research Council, focusing on change management, diversity initiatives, and workplace learning. As an author, educator, and researcher, Dr. Bloomberg consults to numerous research and nonprofit advisory boards, including the *Future Talent Council*, Global Advisory Board for Faculty and Staff Development, Mentor in Residence for SAGE Publications, educational blog contributor to Teachers College Publications, and Associate Editor for the Journal of Online Graduate Education. Dr. Bloomberg presents regularly at national and international professional conferences on topics related to qualitative research, online learning, and professional development for online pedagogy, and is the author of multiple publications in the fields of qualitative research, organizational evaluation, leadership development, ensuring equitable student success, adult learning, and distance education, and a contributor to The Sage Encyclopedia of Educational Research, Measurement, and Evaluation (2018). Her three most recent books include the 6th edition of *Completing your qualitative dissertation: A road map from beginning to end* (2023), *101 Golden Nuggets for Preparing a Qualitative Dissertation* (2021) both published by SAGE, and *Designing and delivering effective online instruction: How to engage adult learners* (2021) published by Teachers College Press, Columbia University. This publication was nominated for the 2021 and 2022 Division of Distance Learning for the Association of Educational Communications and Technology and for the Online Learning Consortium (OLC) award for Excellence in Instructional and Teaching Practice (2024). Dr. Bloomberg holds master's degrees in counseling psychology, organizational psychology, and education. In 2006, Dr. Bloomberg completed her doctorate in adult education and organizational learning at Columbia University. In 2021 she received a diploma in executive coaching from the Goizueta Business School, Emory University, and is qualified as Associate Certified Coach (ACC) with the International Coach Federation.

AUTHOR INTRODUCTION AND NOTE TO THE READER

Welcome to you, the reader and learner! My goal in creating this open access resource is to share with you my knowledge and insights regarding qualitative data analysis, and specifically how relevant strategies and techniques may be successfully incorporated in a qualitative dissertation. The comprehensive resource was compiled to be instrumental in shedding light on all aspects of qualitative data analysis, providing both theoretical background and practical "pointers"; thereby raising the general level of research competence and paving the way for graduate-level researchers in understanding the qualitative options available to design and conduct feasible and rigorous studies that will meet programmatic requirements and expectations.

This resource was conceptualized and created as part of a *student research companion* designed to meet the needs of students who are pursuing Masters (thesis) or Doctoral (dissertation) research. This resource is the second in a series on qualitative research designs and methods and will serve to supplement the open access article I developed and published in July 2025: *Critical Qualitative Research: Underlying Philosophy, Foundational Principles, and Real-World Application to Dissertation Research*. https://hdl.handle.net/20.500.11803/3941. As the author of these resources, I envision this second student research companion to be part of an ongoing series of resources that will assist students and faculty researchers.

This research companion has multidisciplinary relevance and will be invaluable to a wide audience in the social sciences, whatever their level of knowledge and experience. The information provided herein will be of assistance to students who are enrolled in qualitative research courses or who may be intending to or currently conducting a qualitative research study. For those who have already adopted a qualitative path this resource provides additional rich information serving to augment or enhance current understanding. Moreover, the material contained herein will also hopefully be of use and value to seasoned researchers or instructors who are seeking additional knowledge and expertise regarding qualitative data analysis.

My background is in adult education, psychology, and qualitative research. I develop and teach courses in qualitative research for application in graduate programs. I am the author of *Designing and delivering effective online instruction: How to engage adult learners.*, *Completing your qualitative dissertation: A road map from beginning to end*. *and 101 Golden Nuggets for Preparing a Qualitative Dissertation*. In all materials that I develop I am committed to equity and inclusion thereby making OER resources accessible for all students. As the author of this resource, I have ensured that ethical considerations are meaningfully interwoven throughout, and that all the material contained herein was thoughtfully developed and presented so as to be inclusive and accessible with the goal of

being readily adopted and embraced by all learners. I certainly hope you find this new resource useful, insightful, thought-provoking, and applicable to your studies!

I wish you much success and fulfillment as you pursue your educational journey.

Best regards, Linda Bloomberg EdD

INTRODUCTION TO THIS RESOURCE

This multidisciplinary resource is based on current and seminal literature, including over 100 relevant text citation references that can serve as a curated bibliography for further reading. The information contained in this resource is derived primarily from the author's two most recent publications: *Completing your qualitative dissertation: A road map from beginning to end* (currently being prepared for its 6th edition to be published in 2027), and *101 Golden Nuggets for Preparing a Qualitative Dissertation*.

Graduate students, as "first-time researchers" often struggle with the somewhat nebulous process of qualitative data analysis. The goal of qualitative data analysis is to make sense of large amounts of narrative information. The challenge lies in reducing raw data, identifying what is significant, and communicating the essence of what the data reveal. Whereas quantitative research strives to produce statistically reliable, valid, and generalizable information, qualitative analysis focuses on identifying themes and moving *beyond description* to interpretation; that is, making *meaning* of the study's findings. In qualitative research we do not seek statistical significance that characterizes quantitative research. Rather, findings are judged by their "substantive significance". The process of data analysis can be conducted manually or with the assistance of analytic software (QDAS). The typical and most frequently used qualitative analytic approach involves coding, theme identification, evaluation and synthesis of themes with the literature, and providing trustworthy interpretations. Moreover, the analytic process should also be aligned with the selected qualitative research design in order to achieve what is known as "methodological congruence". For example, Interpretive Phenomenological Analysis (IPA) is used in a phenomenological study whereas classic thematic analysis is suited to case study design. As such, there is no "cookie-cutter" approach since "design-specific analysis" is critical in contributing toward rigorous qualitative research!

Data analysis in qualitative research is a complex process due to the multiple methods of data collection and data sources. While there is no formula to apply as in quantitative research, there are guidelines, standards, and principles that must be applied to qualitative data analysis, and adhering to these is necessary to ensure the trustworthiness of the research. Concepts such as QDAS (Qualitative Data Analysis Software), research ethics, trustworthiness, researcher credibility, positionality, and cultural integrity are also addressed and explained. Woven into the discussion of each of the central elements that constitute data analysis and interpretation are the *associated implications for dissertation research*, thereby clarifying expectations and requirements. Additional materials that accompany this resource emphasize real-world practical examples of application to dissertation research, thereby clarifying expectations and requirements for graduate

students. This includes ways to address data management, audit trails, transparency and rigor in reporting data, researcher reflexivity to ensure ethical standards and trustworthiness, and culturally responsive research; a phenomenon that is becoming increasingly significant, particularly for those engaging in indigenous research, critical methodologies, and cross-cultural studies.

CONDUCTING QUALITATIVE DATA ANALYSIS: THE "HUMAN TOUCH"

Qualitative research serves as a vital methodology for exploring the intricacies of human experiences, shedding light on diverse perspectives, and enriching our understanding of the world around us (Creswell & Poth, 2025; Marshall et al., 2022). As we navigate increasingly complex social, cultural, and scientific landscapes, qualitative research continues to play a pivotal role in uncovering the richness and depth of social and cultural phenomena by centering human meaning, experience, and context. Rather than reducing behavior to numerical indicators, qualitative research seeks to understand how individuals interpret their experiences and construct meaning within their social and cultural environments (Bloomberg 2023, 2026). With its emphasis on real-world context, human experience, and subjectivity, qualitative research offers a multifaceted lens through which to explore and interpret the complexities of social phenomena, which is in contrast to quantitative research, not as contradictory--but as complementary--each with its own distinct strengths and areas of application. The researcher is actively involved throughout the research process, serving as the main tool for interpreting data. Because qualitative research is interpretive in nature it opens up possibilities for subjectivity and bias because the researcher's own beliefs, values, and positionality will inadvertently color their interpretation. This introduces the need for rigorous reflexivity to ensure that there are thorough checks in place to maintain alignment and trustworthiness and to make certain that the researcher remains aware of their personal influence on the findings. The goal of qualitative research is to provide detailed and rich descriptions related to experiences associated with the research phenomenon. In contrast, the goal of quantitative research is to produce statistically reliable and generalizable information about the research phenomenon. In qualitative research we do not seek statistical significance that characterizes quantitative research. Rather, what we mean by significance is that findings are meaningful or potentially useful given what we are trying to find out or better understand. Qualitative findings are judged by their "substantive significance" (Maxwell, 2018; Patton, 2015).

Cautionary Use of AI in Qualitative Data Analysis

The UNESCO Report (2023) aims to support the planning of appropriate regulations, policies and human capacity development, to ensure that GenAI becomes a tool that protects human agency, avoids potential ethical risks, and genuinely benefits and empowers teachers, learners and researchers. With regard the use of AI in education and research, this Report makes clear that it is essential to "define the potential domain of research problems and expected outcomes, to demonstrate the efficacy and accuracy, and to ensure that

human agency in understanding the real world through research will not be undermined by the use of AI tools" (p. 29).

Rapid advances in artificial intelligence (AI) technologies, especially in consumer-available large language models (LLMs), have spurred efforts to automate qualitative data analysis. For researchers new to qualitative research, existing work rarely explains how research values and the different approaches to qualitative research shape AI-assisted data analysis methods (Nicmanis & Spurrier, 2025). With increasing conversation around the application of AI to qualitative research, recent developments reflect the integration of machine learning and AI to augment traditional analysis. For instance, machine-learning models are being developed to offer decision support for determining data saturation, historically a subjective and inconsistent judgment in qualitative work. Despite these advances, qualitative analysis remains deeply interpretive and context-dependent. Researchers must navigate potential biases, ensure methodological transparency, and justify analytic decisions so that findings reflect credible interpretations rather than researcher preconceptions. Reflexive engagement with data, ethical sensitivity, and methodological comprehensiveness remain central to robust qualitative inquiry. A strong note of caution is thus warranted regarding the use of AI in qualitative data analysis, with the view that AI cannot overshadow the analyst's critical evaluative and interpretive skills (Ayik, et al., 2026; Bryda & Sadowski, 2024; Christou, 2024; Davison et al., 2024; Friedman et al., 2024; Friese, 2026; Jowsey et al., 2025; Nicmanis & Spurrier, 2025). While AI can support bottom-up thematic analysis using inductive coding, human interpretation remains essential for meaningful qualitative research. As Jowsey et al., (2025) explain, caution is grounded in both methodological and ethical concerns, and they urge qualitative researchers to think critically about the use of AI, emphasizing that qualitative research should remain a distinctly *human* practice. These authors argue that AI cannot be reflexive, because,

> "...by definition, reflexive qualitative analysis is an inherently meaning-based technique. Just as the meaning-based requirement of reflexive thematic analysis, for example, distinguishes it methodologically from word-counting techniques such as content analysis (which can be automated), so too it must also exclude GenAI on the basis that GenAI is fundamentally incapable of genuinely making meaning from language (Webster, 2025). Failure to recognize these limitations of GenAI risks analyses that reinforce dominant paradigms and biases" (p. 1).

Davison et al., (2024) address what they refer to as "interpretive sufficiency, and explain it this way:

> "AI tools, while powerful and efficient, only have access to the text. As of today, they cannot capture the nuances of the research environment, body language, facial expressions, tone of voice, interactions between the researcher and the research subjects, and the researcher's own accumulated understanding of the domain. Moreover, automated systems detecting these 'soft' characteristics of human interactions are highly questioned because of their poor reliability and potential for discriminations. Relying on such tools thus constitutes both an abdication of our responsibilities as researchers and a voluntary diminishment in our own agency and human consciousness required in the construction of knowledge" (p. 1435).

Nicmanis & Spurrier (2025) emphasize the ethical risks involved in the Sage Special Issue: *The Evolving Landscape of Qualitative Research: Exploring the Potential and Navigating the Challenges of Artificial Intelligence*:

> "... AI-assisted data analysis comes with serious ethical implications that must be considered... In the case of qualitative research, often sensitive and personal information is obtained through interviews and the observation of interactions. Sharing this data with third parties not only compromises the confidentiality promised to participants but may also violate ethical standards and legal regulations concerning data protection... Additionally, the way these technologies operate, including their potential to fabricate information, misunderstand experiences, or produce highly biased analyses, raises substantial ethical concerns... AI-assisted data analysis used uncritically may produce cookie-cutter research that only serves to reinforce existing explanations of phenomena and risks perpetuating bias or fabricated accounts...As AI becomes increasingly integrated into qualitative analysis, it is vital to ensure its use is correct, transparent, and aligned with the established approaches to understanding qualitative research" (pp. 10-11).

Friese (2026) states clearly,

> "The rapid emergence of generative artificial intelligence (genAI) tools is profoundly reshaping how researchers engage with unstructured data, particularly within qualitative analysis. While these advancements offer exciting possibilities, they also bring challenges. Traditional qualitative coding methods, though rigorous, are often time-intensive. Conversely, while general-purpose chatbots and large language models (LLMs) offer speed, they frequently fall short in providing the necessary rigor, transparency, and traceability crucial for sound qualitative inquiry. Many current applications claiming to automate qualitative analysis often perform tasks closer to

> classification proxies rather than engaging in the deep, interpretive work characteristic of the field" (p. 1).

While it is generally recognized that the potential role AI could play in making traditionally time-consuming analytic tasks more efficient and less burdensome, there are a number of critical limitations to be aware of, taking into consideration the central role of ensuring "human-in-the-loop". Despite its speed and efficiency, some of the significant risks include:

> *Hallucinations:* AI displays the tendency to fabricate information in outputs due to their underlying mechanisms that prioritize probabilistic accuracy over factual correctness. For example, AI may summarize a theme that doesn't actually exist in the raw data or "invent" a supporting quote.
>
> *Bias:* AI-assisted data analysis used uncritically may produce cookie-cutter research that serves to reinforce existing explanations of phenomena and risks perpetuating bias or fabricated accounts. For example, AI trained on Western data might misinterpret cultural nuances in interviews with minority populations.
>
> *Lack of Reflexivity:* AI cannot reflect on its own biases or the power dynamics between the interviewer and the participant.
>
> *Context Blindness:* AI often struggles with metaphors, local slang, or the specific cultural context that underlies the "thickness" of qualitative data.
>
> *Privacy:* Uploading sensitive data to public AI models can violate ethical standards and GDPR/HIPAA regulations. Sharing this data with third parties not only compromises the confidentiality promised to participants but also violates ethical standards and legal regulations concerning data protection.

Overall, if the choice is made to utilize AI in qualitative data analysis, the researcher remains the primary author, even when language is co-generated. AI contributions are always mediated by the researcher's theoretical lens, methodological choices, and interpretive judgment. It is the researcher who decides which elements are meaningful and why, because authorship lies not in who generates the text, but in who confers significance. As such, transparency is central. Ethical use of AI is defined as idea generation or writing refinement *with citations and clear reporting of the tool used, including how it was used*. Researchers must clearly document how AI was used, for example, by disclosing the question sets employed and the resulting chat transcripts or analytic trails. Such documentation is essential so that others are able to determine and evaluate the integrity and rigor of the analysis.

Analyzing Qualitative Data: An Overview

The process of qualitative data analysis includes making sense and meaning of large amounts of narrative information by reducing it to manageable chunks so that it can be meaningfully interpreted, and the process can be conducted manually or with the assistance of analytic software (QDAS). Qualitative analysis of interview, observational, or textual data is not simply about description of what people said or what you observed; rather, analysis is about lifting the analysis *beyond description*, and *making sense or meaning* of what was said, observed, or depicted. Data analysis in qualitative research is not a linear process. Instead, it is a complex process with multiple layers which is due to the multiple methods of data collection, the variety of data sources which are used. While there is no formula to apply or one single process to follow, as in quantitative research, there are guidelines, standards, and principles that must be applied to qualitative data analysis, and adhering to these is necessary to ensure the trustworthiness of the research. Because data analysis is applied somewhat differently based on the different qualitative research designs, what is important is that the analytic strategy should be grounded in and aligned with the design that you have selected and should adhere to and respect the expected features of the chosen design. Above all, rigor lies at the core of qualitative data analysis. As stated by Tracy (2026),

> "Rigor in qualitative research is not about quantity but about depth, appropriateness, and thoughtful alignment. Rich rigor refers to how well researchers match theoretical goals with context, spend time immersed in the field, and engage in comprehensive data collection and analysis. This includes (a) using data collection methods appropriate to the research question; (b) engaging with relevant theory; (c) spending sufficient time in the field; and (d) choosing samples that fit the study's aims" (pp. 250-251)

The quality of qualitative research therefore hinges on the researcher's abilities, particularly in data collection and analysis. This underscores the importance of having well-trained and experienced researchers for qualitative research. To ensure the quality of qualitative research amidst the requisite high level of researcher skill, ongoing training and professional development become paramount. Access to education or training and resources on the latest methods and techniques in qualitative research can enhance researcher capabilities. Additionally, fostering a culture of collaborative learning and mentorship, where less experienced researchers can learn from and be guided by more seasoned colleagues, further ensures the development of requisite expertise and skills.

The Analytic Process

Having completed or still being immersed in data collection and faced with mounds and mounds of "stuff" and unsure about what needs to be done first, many students become overwhelmed at this point of the dissertation process. Indeed, there can be a vast amount

of data that need to be transcribed, organized, and reduced. Many students have some notion of *what* they must do to analyze their data but are uncertain about *how* to really go about doing it. When you reach this point in the research process, it is essential to keep an open mind, remembering that qualitative research is all about discovery, and qualitative data analysis is the process of bringing order, structure, and meaning to the masses of data collected.

Once you have collected your data by way of the various data collection methods (and combinations thereof) that you have chosen to use, your next step is to manage, organize, and make sense of all the separate pieces of accumulated information. Qualitative data include excerpts from documentation, interview transcripts, survey comments, focus group transcripts, critical incident forms, and field notes from observations. In addition, you may have collected some quantitative data by way of survey methodology, yielding numbers, frequencies, and percentages. All of these data are called *raw data* because they are as yet untouched by you. Your task is to transform the data into something meaningful through analysis and making inferences from these separate pieces of accumulated information. Think of qualitative data analysis as encompassing the following interrelated activities:

- **Read through transcripts and make notes of emergent ideas:** Review transcripts and look for words or phrases that jump out or are repeated, as well as any divergent responses to what you would think would be expected. These become your codes. Coding is a fundamental aspect of the analytical process and the ways in which researchers break down their data to create something new. Note that if you manually code your data, you become intimately involved with and gain a deep understanding of your study than if you simply rely on software. Ideally, using a combination of manual and software is a good strategy.
- **Describe and classify codes into themes:** Develop groups of codes to form themes that become the study's findings. A "theme can be an outcome of coding, categorization or analytic reflection. Thus, we have codes at a primary level and categories or themes at a secondary level, which are formed from groupings of codes.
- **Develop interpretations:** Dig very deeply to determine the *meaning* of the findings. To accomplish this we look at how we have answered the research questions to see if the findings align with or diverge from the current research on the topic.
- **Present findings:** Share with the readers the findings of our study. This can be accomplished in several ways that will depend upon the chosen research design. Typically, the research findings are integrated with the relevant literature and your study's theoretical or conceptual framework to produce a holistic and comprehensive synthesis.

Centrality of Transparency

Transparency is a central issue of debate across types of qualitative research, and so a note on transparency is warranted here. One of the most common shortfalls in presenting qualitative research (and hence one of the most common critiques of published qualitative research methodology) is what might be referred to as the "black box approach to data analysis"; that is, inadequate description of analytic procedures and reasoning (Guest et al., 2012). Oftentimes, researchers simply state that they "conducted analysis" in the belief that this constitutes sufficient information. However, this is not the case! Throughout the process, detailed notes must be kept of each step in the process. This provides an audit trail, the transparency of which helps lend credibility and dependability to the study (Bloomberg, 2023; Nowell et al., 2017; Reyes et al., 2024). As explained by Cheek and Oby (2023), developing and describing a qualitatively driven analytic approach implies making decisions about how you will manage and organize the data you collect, and how you will justify and keep track of all your decisions along the way. An audit trail constitutes a comprehensive and trustworthy (credible and dependable) account of the analytic process, and this involves making explicit all decisions and choices for arriving at certain judgments during data analysis, as well as a thorough description of all steps taken and methods used in your analysis. In this way you establish an "audit trail" (Guba & Lincoln, 1982, Lincoln & Guba, 1985; Miles et al., 2019), which enhances transparency and is an indication of sound and rigorous methodological practice.

Application to Dissertation Research

Broadly speaking, qualitative data analysis is your attempt to summarize all the collected data in a dependable and accurate manner. This process is based on induction: You start with a large set of data and seek to progressively narrow this into smaller important groups of key data. There are no predefined variables to focus analysis as there are in quantitative research. Qualitative data analysis requires patience and reflexivity in an iterative and often "messy" process that strives to make sense of multiple data sources, synthesizing all of data sources and insights, and developing an interpretation that is holistic and integrated with both the study's findings and the literature.

The specific analytic approach that you applied in your study should be clearly explained, and the researcher should be positioned as *active* in the research process; that is, making very clear that themes do not just "emerge". Transparency of the analysis means that the reader is able to follow the researcher's reasoning and has the necessary information for accepting their interpretations or challenging them. Transparency means avoiding the "black box approach" to data analysis. The repeatability of an analysis means that the process of analysis and interpretation has been presented so clearly that another researcher applying them would reach similar conclusions. While the process of data analysis and interpretation of findings can never be fully formalized, and this is not the goal of qualitative research, it is above all a question of working step by step so that the process

in its entirety is visible and transparent. Presenting audit trail items as an appendix in your dissertation demonstrates to examiners and readers that the analytic process you have undertaken has been systematic and rigorous. Qualitative data analysis thus involves more than just coding and categorizing data. To extract valuable insights from your data requires an iterative and reflective approach to understand the nuances and complexities of the data, and a great deal of transparency in your reporting.

Preparing For Qualitative Data Analysis

Although the mechanics of data analysis can vary greatly and are undertaken differently depending on the qualitative research design, some general guidelines apply. Although these guidelines describe the analytic process as if it were a series of separate sequential steps, it must be remembered that qualitative data analysis is an interactive and recursive process, rather than a linear one (Bloomberg 2023, 2026; Finlay, 2021). Qualitative analysis is a complex process with multiple layers that builds upon itself as the study continues to move forward. As such, data analysis and interpretation evolve as the study progresses. This is due to the multiple methods of data collection, variety of sources which are used, and methods of data analysis employed by the researcher. Moreover, it is important to remember that qualitative data analysis includes a "family of methods" rather than a singular analytic method (Braun & Clarke, 2022b, p. 1). Analysis is thus both an exciting and a challenging aspect of the qualitative research process, requiring a degree of systematic searching and creativity (Bloomberg, 2023, 2026). To be successful, two important issues to address are ways to best manage data and development of what one might call an "analytic researcher mindset".

Data Management Strategies

The data generated by qualitative methods are voluminous, and the sheer quantity of raw data can indeed be quite daunting. The best piece of advice I can offer is that if data are to be thoroughly analyzed, they must be *well organized*. Attention to detail in managing data is important at every stage of the research process. This notion becomes all too clear when it is time to write up the research. You will need to transcribe your interviews as soon as possible and assign identification codes to each transcript. Bear in mind that you must know your data intimately. Although extremely time consuming, it is imperative that interviews be transcribed verbatim. The exact words of participants must be recorded, along with any aspects of nonverbal communication, such as pauses, laughter, or interruptions. Also, be sure to make copies of all your material; from an early stage, find a way to securely store the data in well-labeled computer files so that you know where to locate the different pieces of information. It is highly advisable to back up all your data. Safely storing the data also ensures that you are honoring the confidentiality of participants which is an essential ethical consideration.

Developing an Analytic Mindset

Because qualitative research is based to a large degree on reflection and interpretation, the "researcher as instrument" brings her or his experience and perspective to the table. Qualitative research does not purport to be objective, nor is this a goal of qualitative research. However, to be rigorous, qualitative research does strive to be transparent, and to openly and clearly document and communicate all decisions taken throughout the research

process. This will serve to avoid what is referred to as the "black box approach" (Guest et al., 2012) and must become an integral part of your thinking and mindset.

As qualitative research becomes increasingly recognized and valued, it is imperative that it is conducted in a rigorous and methodical manner to yield meaningful and useful findings. To be accepted as trustworthy, qualitative researchers must demonstrate that data analysis has been conducted in a precise, consistent, and exhaustive manner through recording, systematizing, and disclosing the methods of analysis with sufficient detail to enable the reader to determine whether the process was credible.

Application to Dissertation Research

In your dissertation you will need to be prepared to explain all the decisions you made during data analysis, in this way creating an "audit trail" (Guba & Lincoln, 1982; Lincoln & Guba, 1982; Miles et al., 2019). This discussion would include details such as how your codes were developed and applied to the data, code definitions (and any changes and/or redefinitions that might have occurred in the process), methods of assessing intercoder agreement (in cases where multiple coders are involved), descriptions of theme development, and thematic definitions. If qualitative data software was used, the name and version of the program must be provided along with the reporting functions used in the analysis. A helpful tool for recording ideas generated during data analysis is "memoing" (writing memos). Analytic memos are reflective notes that researchers write to themselves about what they are learning from their data. These memos can include notes about anything, including thoughts on emerging concepts, themes, and patterns found in the data; the need for possible further data collection; comparisons that were made within or across the data; methods of interpreting findings; and ways in which researcher bias may be a concern.

Because qualitative data analysis is an interpretative process, it is important that you keep track of all of your ideas. This would include details such as how codes were developed and applied to the data; code definitions (and any changes and/or redefinitions that might have occurred in the process); methods used to address coding decisions; and methods of assessing inter-coder agreement (in cases where multiple coders are involved). If qualitative data software is used, the name and version of the program should be provided along with the reporting functions used in the analysis. All of these steps add to the qualitative research "mindset" which serves to maintain transparency, and hence rigor. Recording your insights and "hunches" as they occur means that you will not have to rely on your memory further along in the research process when you embark on interpretation, conclusions, and the final write-up of your dissertation.

Computer-Assisted Data Analysis Software

The process of data analysis as it is done traditionally is explained in such a way as to intentionally highlight the human thinking and the mechanics involved. While qualitative data analysis software, typically referred to by the acronym “QDAS” (or computer-assisted qualitative data analysis software, referred to as “CAQDAS”), has become more prevalent in recent years, you need to be aware that although various different types of software programs are available, the principles of the analytic process are the same whether one is conducting analysis manually or with the assistance of software.

QDAS Benefits

Students often ask whether they should make use of software for their data analysis. Software can indeed be of great assistance in classifying, sorting, filing, storing, and reconfiguring data. Software can make it easier to develop complex stratified sets of codes, arranged around nodes, in different layers. It will also make the use of codes to identify data that is relevant to any given question (for example in interviews or focus groups) more operationalizable as the software will automatically pull together all the data that has been coded with a particular code for you to review together. The programs currently available are useful in mechanically organizing data and performing a number of additional analytic operations. With the use of these QDAS programs, for instance, you can create shorthand versions of themes or categories. After you sort your data, how many times a theme has been placed in a given category can be done automatically, and some programs can also make broader connections among the categories to develop higher-order conceptual structures. Another useful feature is concept mapping, which enables researchers to visualize relationships among codes and themes using a visual model. With the numerous creative visual representation tools, data visualizations are possible through charts and graphs to better understand the data and to communicate outcomes to readers. Moreover, software can facilitate collaboration between researchers, allowing easy storage and time-saving access to large amounts of data.

Choosing an Appropriate Program

In the absence of clear direction, students also very often ask which software program to use. As many authors point out, it is impractical to prescribe which software program is “best.” In addition, what worked for somebody else might not work for you or your particular study. It is advisable to select a relevant program that aligns with the specific data analysis protocol you plan to use within your qualitative research study. Moreover, in doctoral

research, it is expected that the choice of data analysis method and software are well aligned with the specific qualitative research design and the study's research problem. The method you select to manage and analyze your data is ultimately a matter of personal preference and depends on what you are most comfortable with and/or institutional requirements. Be aware of the options available and be cautious that the method you choose to adopt helps (by bringing value) rather than hinders your analysis efforts. It would be wise to explore several of the available programs to make an informed decision. If you are choosing software as an analytic tool, it is also important that you differentiate between programs that manage data and programs that actually perform data analysis. Some programs allow the researcher to store, index, sort, and retrieve data, whereas some actually performs content analysis. Information regarding the features, functions, and capabilities of the software is included in each of the program websites. Traditional Software (with AI features), including *NVivo, MAXQDA, and ATLAS.ti* now include generative AI "assistants" for code suggestions.

Application to Dissertation Research

Be aware that there are various limitations and caveats involved with the QDAS analytic method. Software analytical packages are a tool that can make the numerous tasks of the analytic process efficient and are certainly useful in assembling and locating information. The software can assist with organizing and keeping track of the analysis, but even then, it is only as useful as the parameters that the researcher enters in terms of guiding the software's functions. It is essentially the human researcher that will be doing the hard thinking work that underpins qualitative analysis. Software cannot, however, interpret the emotional tone that is often critical to understanding the findings and therefore neglects to take into account the contextual basis of information (Bloomberg, 2023, 2026). In searching out and producing every coded item each time these appear, the software tends to produce data (mostly in the form of discrete words and phrases) in the absence of their surrounding context. In so doing, although precise and concise, some of the richness of the data can become lost in the process. Moreover, with so many instances of discrete items, this method can produce a data glut, which can be overwhelming to the researcher.

A further caveat is that while this method has become popular for processing large amounts of qualitative data, trying to learn the principles of coding and qualitative data analysis, while also becoming competent at navigating the functions of the software can prove to be difficult, and so for many students QDAS is not an option, and they decide instead to manually code their data. As such, when contemplating the use of software, you should consider how computer literate you are, how at ease you are with the prospect of exploring

and learning new software, and what kind of analysis you intend to do. For the reasons listed above it is recommended that if you are considering QDAS you also be prepared to conduct some form of manual analysis to remain “hands on” and ensure that the “human” aspects of analysis are meaningfully integrated (Bloomberg, 2023, 2026). A student researcher should become thoroughly familiar with their data and not just let the software do the work for them. When you manually code your data, you become intimately involved and gain a deep understanding and “feel” for the data than if you simply rely on the software. Ideally, using a combination of manual analysis and software is a good strategy!

Inductive, Deductive, and Abductive Analysis

Qualitative data analysis is the broad process of making sense and meaning of the study's data. As pointed out by Hyde (2000), "There are two general approaches to reasoning which may result in the acquisition of new knowledge, namely inductive reasoning and deductive reasoning. Inductive reasoning is a theory building process, starting with observations of specific instances, and seeking to establish generalizations about the phenomenon under investigation. Deductive reasoning is a theory testing process which commences with an established theory or generalization and seeks to see if the theory applies to specific instances" (p. 83). Models of reasoning, commonly referred to as deduction, induction, and abduction, illustrate the basic "thinking processes" behind analysis in general, and have their roots particularly in grounded theory (Strauss & Corbin, 1998). Developing an understanding of these models allows us to make decisions regarding how to go about analyzing a study's data (Kennedy & Thornberg, 2018).

Inductive Analysis

This is data-driven and can be considered a "bottom up" approach. Inductive reasoning means relying on the data to guide the research and allowing meaning to form as the data analysis process proceeds. Researchers who adopt an inductive or "data-driven" approach will seek to produce codes that are solely reflective of the content of the data, free from any theoretical or conceptual framework. Data are not coded to fit a pre-existing coding frame, but instead "open-coded" in order to best represent meaning as communicated by the research participants. The metaphor driving this model is the metaphor of "collecting", whereby researchers collect data to form a "bouquet of flowers" that is informative about something more general than any single flower is capable of (Brinkman, 2014). In research based on inductive reasoning, empirical evidence is collected and used to build understanding rather than starting with a predetermined of theoretical concepts to test (Thomas, 2006). The inductive approach thus involves the reduction of information that has been collected by organizing this with the help of a coding scheme to create significant patterns and themes. Bingham and Witkowski (2020) have outlined how deductive and inductive analysis practices can be employed in combination. These authors explain how deductive practices can be used to: (1) sort data into organizational categories; (2) organize data into categories to maintain alignment with research questions; and (3) apply theoretical or conceptual frameworks. Inductive practices can be used to: (1) make meaning from the data; (2) develop codes, themes, and findings; (3) identify representative data to support findings; and (4) explain findings using theory and literature. Refer to this useful resource: https://methods.sagepub.com/methods-map/induction

Deductive Analysis

This is theory-driven and can be considered a "top down" approach. Deductive reasoning starts with theories, models or constructs and infers statements from certain premises, defined by these theories, models or constructs (Jarvinen & Mik-Meyer, 2020). In research based on deductive reasoning, empirical evidence is collected and used to test an existing theory or a theoretically-based assertion. The researcher predicts what the empirical evidence (the data) should show if the theory is to be supported. Deductive analysis is "analyst-driven" and predicated on the theoretically informed interpretation of the researcher. The researcher produces codes prior to completing interviews or other methods of data collection, and the coding scheme is based solely on the literature and the study's theoretical or conceptual framework. Data analyzed and coded deductively is interpreted through a particular theoretical or conceptual lens. Deductive analysis has typically been associated with positivistic approaches, whereas inductive analysis tends to be more aligned with constructivist approaches. Refer to this useful resource: https://methods.sagepub.com/methods-map/deduction

Abductive Analysis

This is an approach that is motivated by the notion that a theory is needed for explanatory purposes, specifically with regard to what is surprising or not routinely expected. There is a need to understand how new ideas and hunches are created that may subsequently lead to new theories or models. Abduction is a form of generative reasoning that begins with observing and confirming an anomaly, and generating and evaluating hunches that may explain the anomaly, for subsequent deductive constructing and inductive testing (Saetre & Van de Ven, 2021). Brinkmann (2014) views this analytic approach as an alternative to the "inductive collector" and the "deductive framer." He introduces the image of the "abductive tool-user" or craftsperson. As he explains, unlike induction and deduction, both of which address the relationship between data and theory, abduction is seen as a form of reasoning that is concerned with the relationship between *situation* and *inquiry*. Abductive reasoning comes into play when the researcher has an insight or makes an assumption that a connection exists in an incomplete or seemingly unrelated set of data. Grounded theorists have employed the idea of abductive reasoning to explain their analytic process. The researcher considers multiple theoretical explanations for a puzzling phenomenon that occurs in the data, formulates a provisional explanatory hypothesis, and then systematically checks this by examining the data in order to develop plausible explanations. Refer to this useful resource: https://methods.sagepub.com/methods-map/abduction

Application to Dissertation Research

In essence, data analysis includes a variety of structured processes for looking across your data set to identify patterns and construct analytic themes (reflects important concepts in the data) and then turn these themes into what ultimately become your findings. The findings will ultimately provide meaningful answers to your study's research questions. Much of the analysis that qualitative researchers engage in is essentially *inductive-deductive data analysis* (Hyde, 2000). As Patton (2015) explains, the researcher may be open to whatever emerges from the data, a discovery or inductive approach, and as analysis reveals patterns and major dimensions of interest, they will begin to focus on elucidating what appears to be emerging, which constitutes a more deductive approach. As such, the emphasis is on an integrative process of analysis starting inductively in the data; forming tentative deductive themes; checking these against the existing research literature and the researcher's personal and professional experiences and understandings; moving back to the data or collecting additional data; and considering whether the themes have sufficient merit to move forward to the final stages of data analysis and, ultimately, write up the study's findings. The implication of this inductive–deductive logic is that the qualitative researcher uses complex reasoning skills throughout the research process (Creswell & Poth, 2025).

Coding Guidelines

Qualitative researchers will look at their raw data and ask themselves, "What does all this mean?" The “answers” that lie within their data are not always explicit and methods or techniques will need to be employed in order to extricate these “answers”. Data analysis in grounded theory was originally introduced by Glaser and Strauss (1967) as a method of constant comparative analysis, and they proposed that constant comparative analysis consists of explicit coding. Strauss and Corbin (1998) explained that through coding, the researcher “seizes the meaning of the data”. Understanding and applying the principles of qualitative data coding is crucial for researchers as it serves as the cornerstone of meaningful analysis and subsequent interpretation. Coding is the process of systematically labeling data and is one step in data analysis. Proficient coding ensures that the richness of qualitative data is not lost but rather organized in a way that facilitates nuanced insights. Additionally, effective coding promotes trustworthiness. Ultimately, a mastery of qualitative data coding enables researchers to uncover the subtleties inherent in qualitative data, contributing to the generation of rich and contextually grounded knowledge.

The Essence of Coding

Coding is a method of organizing qualitative data in preparation for identifying emerging themes which will be used in the data analysis. It would be impossible to analyze the large amount of data collected from qualitative research without the use of coding to reduce and organize data into useful information, and this system of organization no doubt eliminates some of the typical feelings of being overwhelmed by the glut of raw data. Coding is a way of indexing or mapping data, to provide an overview of disparate data that allows the researcher to make sense of them in relation to their research questions (Blair, 2015; Elliott, 2018). Coding is a system of classification; the process of noting what is of interest or significance and labeling these to condense and organize the information contained in the data. Codes are a type of shorthand; the names or identifiers that you attach to chunks or segments of data that you consider relevant to your study and thus “capture” these. These segments can be single words, phrases, sentences, or even whole paragraphs (Bazeley, 2021; Saldana, 2021). Codes can be written as words or acronyms in the margins or alongside the appropriate segments of text.

Coding Strategies

Coding is an important step in all qualitative data analysis. Essentially, there are two basic strategies to the coding of data: first, emergent coding where codes are *drawn from the text*; and second, where codes are created beforehand and *applied to the text*. There are many methods or techniques of coding, including open coding, axial coding, selective coding, in vivo coding, and a priori coding. The specific method or technique you will use will depend upon your analysis strategy. Each coding method has unique strengths and limitations, and their application depends on the research objectives. Open coding provides an initial

exploration, axial coding organizes and connects themes, and selective coding refines and focuses the analysis. The choice of coding methods significantly influences the depth and direction of qualitative data analysis. In your dissertation you will need to fully address the comparisons of each method or technique and when and how you made use of these.

Whatever system you choose to use, as you read your material, the codes that you assign signal what you think is going on in a piece of data and may require more than one type of coding to thoroughly understand and analyze data. Remember, coding is *more than counting*. While quantitative coding *reduces* data, qualitative coding is essentially about data *condensation and retention*. The purpose of coding is *not just to label* all parts of your documents about a topic, but rather to *bring them together* so they can be reviewed, and your thinking about the topic enhanced and developed. Coding is thus an iterative and cyclical process with ongoing revisions as you merge and add new codes, and rarely is the first cycle of coding perfect (Bazeley, 2021; Saldana, 2021). As you read and re-read your data, categories are created, which involves collapsing the codes into more manageable groups (Vollstedt & Rezat, 2019). Subsequent cycles of recoding further filters, focuses, and highlights the salient features of your data, providing the potential for generating themes or building theory as in grounded theory research.

> **Open Coding** involves an "emergent" process of thoroughly examining the data and is typically the initial coding activity. At this stage, researchers will read the data very thoroughly; going line by line and assigning codes (alphanumeric symbols or colors) to words or segments of the narrative that appear to capture key ideas or issues. The codes that are assigned will reflect the literal or inferred meaning of data segments. This process is iterative and requires constant reflection and revision (Bloomberg, 2023, 2026). This process allows for a flexible and exploratory approach to understanding the data, enabling the generation of initial ideas and concepts that form the basis for further analysis and theory development. Using this method, the researcher organizes the data by creating broad concepts using single words or short phrases and constantly comparing data and codes (Vollstedt & Rezat, 2019; Williams & Moser, 2019). This is a grounded theory concept where the descriptors emerge from the data and is essentially *inductive analysis*. Advantages of open coding include its understanding of the data's nuances and the generation of rich, detailed codes. Open coding is the initial level of the coding process which labels data to prepare for axial coding.

Axial Coding follows open coding as a second level, by refining and aligning to develop categories of interrelated concepts (Williams & Moser, 2019). This way of coding extends the process of open coding by joining groups of codes and establishing relationships among them. The process involves re-examining the initial codes and grouping fragmented codes into higher-level categories that reflect more abstract concepts. The researcher will start to look for patterns, connections, and hierarchies

among the codes to develop a more coherent and complete understanding of the data (Bloomberg, 2023, 2026). Axial coding thus serves as an intermediate step between open coding and identifying themes. Axial coding is termed so because the coding occurs around the axis of the research category. Axial coding can be understood as taking data from open coding and putting it back together in new ways to make connections between the codes. Relationships between initial codes serve to identify major codes that are closely interrelated or overlap. During axial coding, researchers reorganize and link the codes identified in the open coding phase by examining how they relate to each other. This process involves looking for relationships, connections, and patterns among the initial codes to develop a more structured and interconnected understanding of the data. This process results in the development of categories (Vollstedt & Rezat, 2019; Williams & Moser, 2019). As explained by Strauss and Corbin (1998) who initially developed this method of coding, "categories are related to their subcategories to form more precise and complete explanations" (p.24).

Selective Coding is most often used to aid in the process of identifying themes. Unlike open coding, which involves initially categorizing data broadly, and axial coding, which establishes connections between categories, selective coding hones in on the primary concepts that appear to be central in explaining the phenomenon under study (Vollstedt & Rezat, 2019). This is the stage of data analysis when repetitive codes are collapsed together or codes that are not relevant to the research questions are removed. This final phase of coding involves selecting the core themes that best represent the data. Researchers focus on refining and integrating the themes to form a coherent narrative that addresses the research questions (Strauss & Corbin, 1998). Selective coding thus narrows the analysis by focusing on core themes that emerge from the data, eliminating redundant codes, and ensuring that the final themes are representative of the data. This step requires critical thinking and creativity to synthesize the data into a meaningful story or theoretical framework (Bloomberg, 2023, 2026). At this stage, researchers will often create a thematic map or chart to visualize relationships among themes, which helps in organizing and presenting the findings. (Bloomberg, 2023, 2026).

Invivo Coding uses the research participants' direct words and phrases to learn about the culture in relation to the phenomenon. As you read and mark units or sections from the material, one way is to begin to label them using terms based on the actual language of the participants—known in the language of grounded theory as an *in vivo* term. Invivo coding is unique in its use of quoted phrases (Miles et al., 2019). Rather than imposing external language or interpretations, in vivo coding captures the verbatim or near-verbatim language used by participants in the study. This approach respects the authenticity of participants' expressions, using their actual words to label segments of data. It helps maintain the context and richness of the original narratives, enhancing the trustworthiness of the analysis by staying close to the language and

meanings as articulated by the research participants (Manning, 2017). One of the greatest advantages of Invivo coding is the ability to respect the culture of the participant and understand their experiences by using their language because many cultures use terminology that is common to them but may be unfamiliar to others outside of the culture (Manning, 2017). An important limitation to note is the lack of ability to utilize nonverbal participants.

A Priori Coding begins with a list of codes prior to completing interviews or other methods of data collection. This is a deductive coding approach that involves the application of predetermined categories or codes to the data. With this method of coding, codes are created beforehand and applied to the text. Unlike open coding, where codes emerge from the data itself, a priori coding uses predefined structures drawn from existing literature, theories, or frameworks. The list of expected codes arises from the review of literature, conceptual frameworks, research questions, and key concepts (Miles et al., 2019). These predetermined categories guide the coding process, allowing researchers to systematically sort and analyze the data according to these predefined concepts (Blair, 2015). As Blair (2015) points out, a priori coding is sometimes referred to as "template coding".

Application to Dissertation Research

Just how long the analytic process will last is difficult to predict, and this depends upon the nature of the study, the amount of data collected, and the analytic and synthesizing abilities of the researcher. The process can be repetitious, tedious, time consuming, and no doubt overwhelming. However, there is no substitute for fully immersing yourself in your data, so do take the time to read and reread so that you really "live with your data". Getting to know intimately what you have collected, and struggling with the nuances, subtleties, and contradictions is an integral part of the process, hence the need to keep an open mind, remain patient, and be prepared for what the data reveal, even if this is unexpected!

Coding can itself become a large and unstructured system, and without appropriate structure and management, poor coding choices may hinder qualitative analysis. Many students who are attempting coding for the very first time often tend to struggle with defining codes, having too many overlapping codes, or having difficulty with how to draw their codes together to create themes. Managing a coding framework is essentially an analytic process in itself, and coding works best when the process is well thought out and thoroughly documented. Bloomberg (2023) provides a useful template to create a *coding scheme development chart* that can be used for this purpose. As you read, sort, and code, two other processes should be occurring simultaneously: (a) preparing data summary tables, and (b) writing memos and/or journaling. *Data summary tables* are working tools that create a record of who said what and how many times a particular response occurs, as presented by Bloomberg (2023). These tables are an essential precursor to interpretation, where you will

need to look closely at both individual participants and the overall group of participants; that is, cross-case analysis.

As you can see, there are a number of coding systems that one can employ, and there is no clear-cut “best option”. When coding qualitative data, researchers should be methodologically thoughtful when they attempt to apply any data coding technique; that they do not assume pre-established tools are aligned to their particular paradigm; and that they consider combining and refining established techniques as a means to define their own specific codes. The time taken to develop a coding strategy should be seen as time well-spent, since the outcome is likely to be a data coding technique that is reflexively1aligned and well suited to finding the meaning the researcher seeks within the raw data. Remember, qualitative research is based to a large degree on reflection and interpretation, and the researcher-as-instrument brings their experience and perspective to the table. Qualitative research does not purport to be objective, nor is this a goal of qualitative research. However, to be rigorous, qualitative research does strive to be transparent, and to openly and clearly document and communicate all decisions taken throughout the research process. It is advisable to have a colleague review your work to see whether your codes are appropriate and relevant to your research questions or have a colleague code some of the same transcripts that you have been working on to check for consistency. Comparing and discussing similarities and differences and exploring reasons for inconsistency is a worthwhile exercise as important insights can emerge from the different ways in which people look at the same set of data. Re-coding is not a sign you have done things wrong; it is simply part of *doing things well,* and because coding is a cyclical action, re-coding usually occurs with a more attuned perspective (Bloomberg, 2023, 2026). In the interest of full transparency regarding your “analytic thinking” (a) continue to review and refine your codes and coding practices; (b) make notes of your thinking behind why you’ve done what you’ve done; and (c) create diagrams, tables, maps, models that enable you to conceptualize, generate and illustrate connections and relationships between codes.

The Concept of Data Saturation

Qualitative researchers often find themselves in conundrum regarding how to address questions such as, what is saturation? How and when does one accomplish it? Is it a phase, a rule, a measure or a standard? How does reaching it or not reaching it affect the research? While controversy surrounds its definition, application, and underlying principles, what is evident is the complexity in clearly delineating the different forms of saturation, their interconnectedness and underlying assumptions, the lack of clear methodological guidelines regarding the application of the concept when sampling, collecting data and analyzing it, and the intricacy in measuring it. Despite its complexity, data saturation plays a fundamental role in boosting research quality and is an important consideration in sampling and data analysis.

Understanding Qualitative Data Saturation

Saturation is generally understood as having reached a point of satisfactory data collection, and is an established concept in sampling for qualitative research As asserted by Fusch & Ness (2015) the concepts behind data saturation remain universal and is used as a guiding principle to determine the most appropriate sample size (Hennink et al., 2017), as well as being "a marker for quality and sample adequacy" (Mandal, 2018, p. 624) specifically for purposive sample sizes (Saunders et al., 2018; Sim et al., 2018). As Hennink and Kaiser (2022) explain, data saturation refers to the quality and quantity of information in a qualitative research study. Saturation is achieved when no new useful information or themes are observed in the data, and when further coding is no longer feasible. This is a core principle that has been used in qualitative research to determine when there is adequate data from a study to develop a robust and credible understanding of the phenomenon. However, a series of problematic issues that this concept raises include the relationship between sample size, how saturation may be evidenced, and whether it is being used in an attempt to "quantify" qualitative research (Tight, 2024).

Underlying Principles

The origins of the concept of data saturation emanate from grounded theory (Glaser & Strauss 1967), where it is used to determine data adequacy for theory development from the inductive analysis of textual data. The idea of saturation was initially referred to as "theoretical saturation" and was introduced as a key component of grounded theory analysis by Strauss and Corbin (1998) who spoke about data analysis as the identification of similar properties, dimensions, conditions, interactions, and consequences, and was later expanded upon by Charmaz (2015) and Corbin and Strauss (2015). The concept of saturation has indeed emerged to become a core methodological element to justify sample sizes for qualitative studies. The concept has gained momentum over the years, becoming one of the key issues amongst researchers focusing on how to enhance rigor in qualitative research as

well as how to improve quality and credibility (Fusch & Ness, 2015; Guest et al., 2020; Hennink et al., 2017; Hennink & Kaiser, 2022; Sebele-Mpofu, 2020).

In essence, it is claimed that an adequate sample must be selected to accomplish coding, thematic analysis, and credible interpretation, and that a researcher should choose the sample size that has the best opportunity for reaching data saturation (van Rijnsoever, 2017). In qualitative research a large sample size does not guarantee that one will reach data saturation, nor does a small sample size; rather, it is what constitutes the sample. If one has reached the point of no new data, one has also most likely reached the point of no new themes; therefore, essentially, one has reached data saturation. Proponents of saturation claim that sample sizes must be ascertained in qualitative studies like in quantitative studies but not by the same means. Malterud et al., (2016) proposed the concept "information power" to guide adequate sample size for qualitative studies, explaining that the more information the sample holds, relevant for the actual study, the lower the number of participants is needed. In quantitative research, by contrast, the sample size is determined by a power calculation. The typical relatively small sample size in qualitative research depends on and the type of sampling strategy, the information richness of the data, the variety of participants, and the data collection methods that were used.

Application to Dissertation Research

While many have attempted to propose the idea of saturation as an integral component of credible qualitative research, a "one-size-fits-all" approach is not available and there are conflicting interpretations and practices (Guest et al., 2020; Fusch & Ness, 2015; Nelson, 2017; Saunders et al., 2018; Sebele-Mpofu, 2020; Tight, 2024). Because of the subjectivity of qualitative research and the lack of definitive "scientific" guidelines to accurately predict and ensure saturation, it is apparent that researchers will need to take an approach that was appropriate for their particular study and be explicit about how they determined that saturation had been achieved (Tight, 2024). Qualitative research is not "quantifiable" and should essentially remain flexible and open-ended. Essentially, you need to have some confidence that distinctive new areas or topics will not emerge with further work, and that you have a suitable, in-depth, detailed understanding of those areas, topics, and phenomena you have focused on. What is central is that the key ideas and claims have been thoroughly thought through and explored. Stake (1995, 2024) and Yin (2018) both share that for a case study 12-20 participants should allow for data saturation. As the researcher, you will determine and justify when data saturation has been reached, why you ceased data collection and analysis at a particular point, and whether the sample size was sufficient by reviewing the analysis, findings, and the quality and depth of your research participants' quotations.

Thematic Analysis

Thematic analysis is a commonly employed qualitative research approach that entails the identification, examination, and documentation of recurring patterns, or "themes." It is a commonly employed method to interpret data derived from a range of sources, such as interviews, focus group discussions, open-ended survey responses, diaries, videos, or other textual or visual materials. The concept of thematic analysis seeks to capture analytic approaches that fully embrace qualitative research values as well as the subjectivity that the researcher brings to the process. Qualitative data analysis is a time-consuming process that evolves as the researcher navigates the different phases of the process. This can lead to new interpretations of the data, which may in turn require further iterations of earlier phases. We work with the data (mostly words) to identify units of information that contribute to themes or patterns, which become the study's findings. This process generates an enormous amount of text. To make the data more readily accessible and understandable, the vast array of words, sentences, and paragraphs must be reduced to what is of most importance and interest and then transformed to draw out key themes. Coding results in the identification of recurring patterns, which become your themes. When you start to group your data into themes, you will be comparing what you see, hear, and read, and redefining those groupings. Themes are essentially groups of similar codes that are aggregated together to form a major or overarching idea or concept that emerges from the data, and that is described by a word or short phrase.

Types of Qualitative Themes

From thematic analysis the researcher derives both semantic (overt, manifest, explicit, surface) meaning and/or latent (implicit, underlying, hidden/unconscious) meaning from the data. In reducing your code list there are several types of emergent themes:

- **Elementary themes**: relatively regular or ordinary, and which you would expect to find
- **Unexpected or unintended themes**: you had not expected these to surface in your study
- **Major and minor themes**: prevalent and primary ideas or concepts or some that may be considered secondary
- **Miscellaneous themes**: these are outliers and therefore difficult to classify or assign as they either do not fit or they overlap with other themes. The tendency is to overlook or discard these, yet don't!

The Analytic Process

Thematic analysis is best described as the way in which coding and theme development is used to inductively and deductively produce an analysis that is grounded in data. Qualitative analysis results in the identification of recurring patterns, which are essentially themes that cut through the data. Bloomberg (2023) expands and clarifies in greater depth on the process of thematic analysis as it applies in distinct and different ways to the various qualitative research designs. While there are a range of approaches to qualitative analysis, these all share a common focus on extracting and illustrating the underlying patterns or themes. Thematic analysis includes the following phases: data reduction, categorization of data, and organization of data (Bloomberg, 2023, 2026):

> To begin, a process of *data reduction* that occurs through applying codes to the data (e.g., as described in constant comparative analysis) or elimination of repetitive or irrelevant data (e.g., as described in phenomenological reduction) in order to define conceptual categories. Codes are developed through the researcher's systematic engagement with their data and are the "building blocks" for themes. Coding is a fundamental aspect of the analytical process and the way in which researchers break down their data to make something new; it is the process of analyzing qualitative text data by taking them apart to see what they yield before putting the data back together in a meaningful way.
>
> Next, c*ategorization of data* occurs by sorting and classifying codes into thematic groupings or "clusters of meaning". Here you will essentially be collapsing the codes into more manageable groups. Thus, themes are produced by organizing codes around a relative core commonality, or "central organizing concept" that the researcher interprets from the data. Themes become the outcome of coding. Thus, we have codes at a primary level and themes at a secondary level.
>
> Finally, the researcher engages in the act of r*eorganizing the data* into thematic representations of findings whereby themes are supported by evidence in the form of excerpts from interviews that link the themes that were developed by the researcher to what was actually said by research participants (verbatim quotations).

As you move through the analytic process, you will be constantly reviewing and refining your labeling practices and noticing how ideas combine, relate, and diverge. Engaging in rounds of data collection and periodic analysis can enable you to explore, check, and refine your emerging ideas. You will finally reach a point of saturation at which your themes are fully developed and no new themes are emerging (Fusch & Ness, 2015).

Application to Dissertation Research

Remember, themes do not simply "emerge". As the researcher you *actively create themes* by identifying and developing these from groups of codes. Given the iterative nature of the analysis and interpretation of qualitative data a prescribed set of standardized or procedural rules or instructions is not possible and cannot be reduced to a fixed or linear prescribed steps or phases (Bloomberg, 2023, 2026; Cheek & Oby, 2023; Freeman, 2017; Jarvinen & Mik-Meyer, 2020; Lester et al., 2020). The non-linear nature of qualitative data analysis is iterative and flexible, and so it is recommended that you think about thematic analysis as a process of overlapping and recursive phases rather than as a set of clearly defined steps. It should be pointed out that Braun and Clarke (2006) outlined a somewhat simplified six-phase stepwise approach to thematic analysis, and in the intervening years these authors have since proposed a method now referred to as *reflexive* thematic analysis (Clarke & Braun, 2013). This revised approach suggests greater reflexive engagement on the part of the researcher rather than the application of a rigid step-wise "method" (Braun & Clarke, 2022a; Byrne, 2022). Analysis is a process of seeking out alternative perspectives, and one way of accomplishing this is to be engaged with other people in your research process. Along with journaling and the reflexivity that journaling engenders, dialogic engagement through peer review with professional colleagues is an important aspect of the overall research process and specifically when it comes to data analysis. While this kind of collaboration is highly encouraged throughout all stages of the research process, its role in promoting a more authentic data analysis process cannot be emphasized enough. Transparency and clarity in reporting your themes are essential. This will ensure that you avoid the "black box approach to data analysis"; that is, inadequate description of analytic procedures and reasoning (Guest et al., 2012). Ultimately, you are expected to describe in detail your analytic approach and show that you are able to demonstrate how you got from your raw data to your conclusions. This type of transparency and clarity is necessary to enhance both the credibility and the dependability of your study.

Additional Qualitative Analytic Options

Codes are, in effect, a type of shorthand; the names or identifiers that you attach to chunks or segments of data that you consider relevant to your study. As such, you can use any system that works for you, be it alphanumeric or some form of symbol. Whatever system you choose to use, as you read your material, the codes that you assign signal what you think is going on in a piece of data. Remember, coding is *more than counting*. Thus, the significance of a code is not dependent on quantifiable measures (in other words frequency is not the issue), but in terms of whether it captures something important or significant in relation to the study's research purpose and research questions. In addition to thematic analysis, there are some other options that may be considered when analyzing data qualitatively. These options include qualitative content analysis, discourse analysis, and visual analysis.

Qualitative Content Analysis

As a document analysis strategy, content analysis is used to determine the presence of certain words or concepts within texts or sets of texts (Krippendorff, 2019). Researchers quantify and analyze the presence, meanings and relationships of such words and concepts then make inferences about the messages within the texts, the writer(s), the audience, and even the culture and time of which these are a part. To begin, the text is broken down into manageable categories on a variety of levels--word, word sense, phrase, sentence, or them--and then examined using one of content analysis' basic methods as outlined by Vaismoradi et al., (2013):

- *Conceptual analysis* establishes the existence and frequency of concepts most often represented by words or phrases in a text.
- *Relational analysis* goes one step further by examining the relationships among concepts in a text. Content analysis allows closeness to the text, which can alternate between specific categories and relationships, and also statistically analyzes the coded form of the text. Despite similarities between the approaches, including coding and searching for patterns and themes, the main difference lies in the quantification of data in content analysis by measuring the frequency of different categories and themes. In content analysis studies *counting the number of times a particular set of codes occurs* is an important measure in assessing the frequency of items or phenomena.

Both content analysis and thematic analysis convert raw language data into organized findings, yet they serve different analytic aims. Each begins with familiar steps, data familiarization, coding, categorizing, and pattern seeking, so researchers moving from one

to the other will recognize much of the workflow. Both methods also accept either deductive or inductive logic; a study can start with an existing framework (deductive) or allow categories to surface during reading (inductive). What is important is to distinguish between conceptual and relational analysis (Vaismoradi et al., 2013). Conceptual analysis focuses on the existence and frequency of specific concepts within data, while relational analysis seeks to understand the relationships between these concepts.

Note that content analysis is sometimes referred to as a mixed methods approach because it borrows tools from both qualitative and quantitative traditions. The distinction, essentially, depends on how researchers view and handle the material in conducting their analysis:

> *Quantitative orientation:* Quantitative studies are essential for establishing reliability and validity in research by measuring and categorizing content, enabling researchers to draw conclusions based on statistical evidence. A study shifts toward the quantitative side when codes are fixed before data review and counts drive the analysis.
>
> *Qualitative orientation:* When the goal is to explain how meanings form, researchers focus on context. Segments of text are coded for latent or manifest meaning, and categories remain open to refinement. Interpretive notes, memos, and iterative comparisons guide decisions. Frequencies may be noted but serve only to highlight emphasis, not to test hypotheses.

While traditional (quantitative) content analysis offers researchers a systematic analytic method for producing categories, this method is *inherently reductive,* particularly when dealing with complex texts, in that it tends often to simply consist of word counts and often disregards the context within which the text was produced (Kuckartz, 2019). A major limitation of traditional content analysis with regard to qualitative research is the tendency to exclude implicit meanings from coding operations, as the method tends to focus on breaking textual content into elements solely by way of presence, absence, or frequency. In the qualitative coding process, frequency of occurrence is not necessarily an indicator of significance. Traditional content analysis is widely cited in the social sciences and media studies as an objective systematic statistical method. Content analysis can, however, also be applied as a qualitative research method utilized in document or archival research and is used to determine the presence of certain words or concepts within texts or sets of texts and then build categories and sub-categories of meanings contained within the text (Armstrong, 2022; Kuckartz, 2019; Morgan, 2022). As discussed by Boreus and Bergstrom (2017) qualitative content analysis can be effectively employed to analyze text or discourse

(dialogue and conversation) and is commonly referred to as discourse analysis or conversational analysis. You can read further here: https://methods.sagepub.com/methods-map/content-analysis

Discourse Analysis

Discourse is a term for communication between or among two or more people. Social life is managed through linguistics and other related interactions among people. Language, which may include non-verbal signs, is the general vehicle which carries such interactions. Wooffitt (2014) defines discourse analysis as "analyzing talk". Discourse analysis as outlined by Gee (2014, 2016) and Rapley (2018) is a complex and rigorous method that can be used in many fields including applied linguistics, education, sociology, ethnography, psychology, anthropology, multicultural studies, and communication studies. This analytic approach involves analyzing the meanings, themes, possible interpretations, and significance of written or spoken language in relation to its historical, social, and political contexts. The focus is on the objectives and impacts of various language types, and how the use of language refers to its historical, social, and political meanings. This method of analysis aims to understand how language is used in real life situations, including the purposes and effects of different types of language, cultural rules and conventions in communication, and how values, beliefs and assumptions are communicated.

Discourse analysis, sometimes referred to as conversation analysis, can be useful for examining and better understanding large volumes of text and is often used in mixed methods media studies and health research (Kleinheksel et al., 2020). Conversational analysis is a detailed form of discourse analysis, used in qualitative research, that views conversation as the basic human communicational form and seeks to explain how people produce and reproduce social order through talk and orientation to talk and each other in social interaction. Critical discourse analysis is a form of discourse analysis that deals with individuals and groups whose "interests" are represented or misrepresented, helped or harmed (Gee, 2016). All variants of discourse analysis focus not just on what is said or written or communicated in any way, but also on how this is done. Critical discourse analysis originates in a radical turn in linguistics, and focuses on issues of authority and power. You can read further here: https://methods.sagepub.com/methods-map/critical-discourse-analysis. Boreus and Bergstrom (2017) offer a thorough overview of the tools used for discourse analysis by addressing issues including positionality, cultural hegemony, and methods of inclusion and exclusion. As these authors put it, "discourses are wholly or partly made up of language use as part of wider social practices" (2017, p. 7). In terms of discourse analysis, therefore, to conduct analysis is to examine the power in discourse and the power *behind* discourse.

Visual Analysis

As the field of qualitative inquiry continues to expand and diversify recent trends illustrate an increased utilization of visual and digital data, with more and more researchers incorporating technological tools and multimedia into their work. Visual imagery ranges from photography and documentary film to fine art, advertising, video, television, comics, cartoons, websites, maps, diagrams, and social media art. An important aspect of analyzing visual material as "visual culture" is the attention paid to audiences and viewing publics. This raises issues regarding the significance of ethical practice, including the practical aspects of using critical visual methods, cultural representation, dissemination, circulation, and accessibility of research through visual techniques (Banks, 2018).

Critical visual methodology concentrates on closely examining the effects of visual images and is concerned with making an argument for both representation and nonrepresentation within visual data. All social science inquiry ultimately aims to advance our knowledge of the cultures, structures, and processes that constitute, and are constituted by, human social behavior. Critical visual methodology is in essence concerned with the social effects of the visual materials it is studying. As Emmison (2017) points out, the focus in analyzing visual images is not so much on the discovery of cultural meanings by the academic analysist but rather the ways in which ordinary actors use or make sense of visual information and incorporate this into their everyday routines and lives. The idea is that the visual is a realm of data, and what is significant is how the information contained in visual imagery is brought to bear upon social and cultural interpretation and application. Visual analysis in the social sciences is qualitative in form, and draws on approaches developed in art history. It is concerned with the content of images, the arrangement of elements within these images, the nature of the processes of production of the images, and the social context surrounding their production. Rose (2023) argues for the power relations inherent in and articulated through visual images and points out four sites at which "meaning is made" and whereby an image becomes culturally meaningful: the site of production, the site of the image itself, the site of its circulation, and the site of its *audiencing*.

Application to Dissertation Research.

Qualitative discourse analysis can be used effectively to explore and examine the meanings, themes, possible interpretations, and significance of written or spoken language in relation to its historical, social, and political contexts. This is particularly applicable in terms of critical qualitative research where the research purpose is to uncover social inequities or systems of oppression. If one is considering employing discourse analysis in their

dissertation it is highly recommended that you familiarize yourself with this research method both in terms of data collection and data analysis.

Researchers interested in pursuing a critical visual methodological approach would select a specific method such as content analysis, cultural analytics, semiology (sometimes referred to as social semiotics; that is, research with advertising and signs), psychoanalysis, discourse analysis, audience studies, and digital methods. Two key approaches to analyzing visual data are content analysis and cultural analytics. The former is a relevant research method because it can address large amounts of data systematically such as mass media (newspapers, magazines, and advertisements) or social media images. Cultural analytics, as a type of content analysis is a method for analyzing images that does not rely on pre-existing interpretive categories and is provided through specific software programs and packages and is used predominantly to analyze digital imagery. Rose (2023) provides a comprehensive outline and additional readings regarding research with visual materials, including coding and interpretive strategies as well as the use of images to disseminate research findings. If one is considering employing visual data in their dissertation it is highly recommended that you familiarize yourself with this research method both in terms of data collection and data analysis.

Data Analysis and Interpretation of Findings

Qualitative research begins with a research problem and research questions, and its ultimate purpose is learning and knowledge production. To inform the research questions, the researcher collects *data*. Data are like building blocks that, when grouped into patterns, become *information*, which in turn, when applied or used, becomes *knowledge*. The goal of qualitative analysis is to make sense of large amounts of narrative information by reducing it to manageable chunks so that it can be meaningfully interpreted. The challenge of qualitative analysis lies in making sense of large amounts of data; that is, reducing raw data, identifying what is significant, and communicating the essence of what the data reveal and explain.

Although the mechanics of data analysis can vary greatly and are undertaken differently depending on the qualitative research design, some general guidelines apply. Although these guidelines describe the analytic process as if it were a series of separate sequential steps, it must be remembered that qualitative data analysis is an interactive and recursive process, rather than a linear one (Bloomberg, 2023, 2026). The steps are repeated several times until the researcher feels that there has been sufficient immersion in the data, that sufficient information has been extracted from the data and that saturation has been achieved, and that the research questions have been adequately addressed.

Interpretation Defined

Essentially, through *data analysis*, by way of coding your data you are forming a record of frequently occurring phenomena by way of patterns or themes. Once you have established your themes, these need to be explained. This is where *interpretation of findings* comes into play. You have to consult the literature and consider your themes in light of previous research and existing theory. Does what you have found confirm similar research? Does what you have found contradict previous studies? How can you explain these differences or similarities? As you begin to consider answers to these sorts of questions and provide convincing explanations, you are interpreting and synthesizing.

Interpretation requires more conceptual and integrative thinking than data analysis alone because it involves identifying and abstracting important understandings from the detail and complexity of the findings (Bloomberg, 2023, 2026). Data interpretation contextualizes findings within the research framework and reflects on the implications and significance of the themes (Bloomberg, 2023, 2026). *Thick description*, a term coined by Geertz (1973), is a crucial strength of qualitative research. In seeking meaning, researchers link their findings to existing literature, theoretical frameworks, and practical applications to provide a

comprehensive understanding of the phenomenon being studied. Interpretation thus moves the whole analytic process to a higher level. What you have seen in the field and what you have heard participants say all come together into a rich "story" that has meaning for the participants, for you, and for the reader. Whereas *data analysis* presents the findings of your research by organizing data from various sources into themes to produce a readable narrative, the purpose of *interpretation of findings* is to provide interpretative insights into your study's findings. This point in the process is where you shift from being an "objective reporter" to becoming an informed and insightful "commentator or storyteller". No one has been closer to the focus of the study, its data, and its progress than you have. You have collected data by way of various data collection methods, studied the transcripts, and read the related literature. You have lived with and wrestled with the data for an extended period of time. You now have an opportunity to communicate to others *what you think your findings mean* and integrate your findings with literature, research, and practice. Denzin and Lincoln (2000) refer to "the art of interpretation" (p. xii). The interpretive process, which is a core underpinning of qualitative analysis, certainly requires a good deal of careful thinking and critical reflection.

The Interpretive Process

Your goal in conducting analysis is to figure out the deeper meaning of what you have found, and that analysis began when you assigned codes to chunks of raw data. Data interpretation involves going beyond mere description to offer explanations, insights, and implications based on the data. The main goal is to determine and explain *what the findings mean*; that is, you are digging deeper below the surface of the findings to explore underlying meanings. You scrutinize what you have found (these are your themes) in the hope of discovering what these actually mean, or more precisely, *what meaning you can make of your findings*. This final step of analyzing qualitative data involves *your interpretation* of the findings. Interpretation is the process of making deeper sense of what is going on in data, why that might be significant, and what the implications might be. This is the act of "making meaning" of the data. Moreover, since interpretation goes beyond the data, the challenge is that it must be defensible. To be defensible, interpretation needs to be grounded in the dataset, but also located within a specific context. Not doing so will produce a limited analysis and will also reduce the reader's ability to consider and evaluate the transferability of your research findings, and the extent of applicability of your analysis to their own context.

Interpretation means how you, as the researcher, understand, explain, and represent research participants and their experiences and how you then describe the experience of others in ways that reflect both process and insight. Subjectivity is inherent in all aspects of

qualitative research, and qualitative research does not strive for objectivity. What qualitative researchers do is strive for conscious and intentional tracking of their subjectivities (assumptions, biases, stereotypes, prejudices) that are at play in the research process and account for these to the extent possible. The goal is to make subjectivities as transparent and open as possible. As such, there is a strong need for an ethical and critical approach to interpretation that fully respects the site or setting and seeks to do justice to participants' experiences. Because these ideas are vital to rigorous research, the importance of transparency and criticality cannot be emphasized enough. Remember, the human factor is the great strength of qualitative inquiry but can also be a fundamental weakness. As Ravitch and Mittenfelner Carl (2020) explain, researcher subjectivity is critical to qualitative data analysis because it is based on intentionality of thought and process.

Implications for Dissertation Research

It cannot be stressed enough that both analyzing data and interpreting the study's findings are both highly intuitive processes, involving continual reflection. Reducing the data and presenting findings can be explained in a stepwise and somewhat mechanical fashion. Interpretation of qualitative data, in contrast, is a far more nebulous endeavor; hence the clear paucity of published literature on how to actually do it. As Patton (2015) puts it, "In short, no absolute rules exist except perhaps this: Do your very best with your full intellect to fairly represent the data and communicate what the data reveal given the purpose of the study" (p. 522).

In qualitative research, we remain open to different ways of seeing the world, and we strive to be open to the reality of others and understand different realities. Analysis of the findings begins with careful listening to what others have to say. Meaning can come from looking at differences and similarities and from inquiring into and interpreting causes, consequences, and relationships. In seeking ways to understand what you have found, you will be comparing your findings both within and across groups and also comparing your study's findings with those of other studies and your theoretical or conceptual framework. Searching the literature to see whether it corresponds, contradicts, and/or deepens your interpretations constitutes a second layer of interpretation.

Interpretation, therefore, is not just a conglomeration of personal ideas but rather the subtle combination of your ideas in tandem with what has already been reported in the literature. The findings of your study will either confirm what is already known about the subject area surrounding your research problem or diverge from it. Therefore, it is imperative that you relate your analysis to the available literature on the subject. A key characteristic of qualitative research is willingness to tolerate ambiguity. As such, examining issues from all

angles in order to demonstrate *the most plausible* explanations is an indication of high-level analysis. Integrity as a researcher is given credence by inclusion of all information, even that which challenges assumptions and expectations (Bloomberg, 2023, 2026). Transparency is what enables a reader to determine whether and to what extent your interpretation is plausible, reasonable, and credible.

Qualitative Design Distinctions

The term *research design* (sometimes referred to as a "research approach" or "research methodology") describes the research process in its entirety. The study's design is essentially a detailed plan or blueprint, and includes research methods, tools, strategies, and techniques to conceptualize and conduct the research so that the end-product has achieved alignment and methodological congruence. Each of the qualitative research designs brings to the fore ideological, conceptual, and methodological implications. Understanding the logic behind a research design will ensure that all research components are well aligned and lay a strong foundation for supporting your study's findings, thereby achieving methodological congruence (Bloomberg, 2023, 2026). Specifically, the choice of research design is directly tied to the study's research problem and purpose.

Overview of Qualitative Research Designs

The primary differences among the research designs lie in the particularities of the philosophical and methodological underpinnings, data collection methods and data analysis strategies. As such, you will need to be knowledgeable about the various qualitative research designs, including their key philosophical underpinnings and characteristic applications. To achieve methodological congruence, and to ensure that all key elements throughout your dissertation are aligned, appropriate methods of data analysis should be informed by and contingent upon your chosen research design (qualitative tradition or genre). As such, it should be grounded in and aligned with the design that you have selected and should respect the expected features of the chosen research design (Bloomberg, 2023, 2026).

Analytical Approaches

Analytical approaches are linked to particular forms of data collection and are underpinned by specific philosophical traditions, and so different qualitative research designs promote specific strategies for data analysis and interpretation.

> **Case Study** uses data analysis strategies that involve a detailed description of the setting or individuals, followed by analysis of the data for themes. Thematic analysis allows the data which is collected to drive the research, identifying common relationships and patterns which become the themes within the data. Analysis of data can be holistic or embedded; that is, dealing with the whole or parts of the case (Yin, 2018). When multiple cases are examined, the typical analytic strategy is to

provide detailed description of themes within each case (within-case analysis), followed by thematic analysis across cases (cross-case analysis), providing insights regarding how individual cases are comparable along important dimensions to warrant any presumed common findings between them (Bloomberg, 2018; Stake, 1978,1995, 2005, 2006, 2024; Stake & Visse, 2023). Case study research makes use of deep and complex interpretation and presents an in-depth picture of the case (or cases) using narrative and visual representation (tables, charts, figures, etc.). You can learn more here: https://methods.sagepub.com/methods-map/case-study-research

Ethnography involves analyzing data through description of the culture-sharing group, to produce common themes that emerge about that group. The goal is essentially the exploration and analysis of *cultural meaning* and patterned regularities in order to make sense of the language or "folk terms" that members of the culture routinely use, and to generate findings that will provide descriptions, analyses, and interpretations of how members experience and understand their world. (Van Maanen, 1988, 1995, 2006). Anthropologist James Spradley (1979) defined "ethnographic analysis" as a search for the parts of a culture, the relationships among the parts, and their relationships to the whole. Spradley (1979) outlined a developmental research sequence that focuses on cognitive structures and shared cultural meaning. Ethnographic interpretation is conducted by attempting to make sense of the findings; how and in what ways the culture functions or "works", providing insight into an emerging story of cultural meaning. You can learn more here: https://methods.sagepub.com/methods-map/ethnography

Grounded Theory is very systematic in its analytic approach. Charmaz (2008, 2020) and Charmaz et al., (2018) outlined a process in which categories of information are generated (open coding), one of the categories is selected and positioned within a theoretical model (axial coding), and a story is explicated from the interconnection of the categories (selective coding). Coding and categorizing involve the "constant comparison" method that continues throughout the study (Glaser & Strauss, 1967). As the name implies, this method involves systematically comparing groups of codes and noting how these groups relate to a central category. The grounded theory study culminates in the identification of a theory, a general explanation of a process (or an action or interaction). The researcher may develop this theory on the basis of a series of analytic steps that include coding the data in several ways, including open coding, axial coding, and selective coding (Strauss & Corbin, 1998). You can learn more here: https://methods.sagepub.com/methods-map/grounded-theory

Phenomenology analyzes data for significant statements that are grouped into "meaning units". The goal is to produce an exhaustive description of the phenomenon by developing an understanding of the core "essence of the experience" by adopting an "insider perspective"; commonly referred to as interpretive phenomenological analysis (IPA) (Alase, 2017; Hammond, 2010; Nizza et al., 2021; Smith & Fieldsend, 2021; Smith & Nizza, 2022; Tatano Beck, 2021; Tuffour, 2017). Analysis focuses on how individuals make sense of their personal and social worlds, and involves detailed, systematic examination of personal experiences and the meanings attributed to those experiences (Moustakas, 1994). Van Manen (1990, 2016, 2023), a hermeneutic phenomenologist, outlined three approaches to isolate thematic aspects of a phenomenon: (1) the wholistic or sententious approach; (2) the selective or highlighting approach; and (3) the detailed or line-by-line approach. The researcher develops a *textural description* of the experiences of participants, as well as a *structural description* of their experiences, to convey the essence of the phenomenon which is essentially the core commonality and structure of the lived experience. Moving beyond description, Mortari (2015) promotes deep reflection to enhance self-awareness and ethical insight. You can learn more here: https://methods.sagepub.com/methods-map/phenomenology and https://methods.sagepub.com/methods-map/hermeneutics

Narrative Inquiry involves strategies that analyze data for "re-storying" the stories of research participants. The researcher seeks to develop a chronology that connects different phases or aspects of a story and from the overall story, the researcher can then identify and highlight emergent themes. Because a distinctive feature of narrative research is that story meaning is *contextualized*, narrative analysis also must necessarily attend to the *social contexts of story production* as well as to how the story elements that are a focus of research are contextualized within the actual stories being explored and retold (Loseke, 2022). The intent is to report stories about an individual's life that illuminate a specific issue. This focus may be in the form of an autoethnography or autobiography that features the stories of the author, a biography of another person, or stories of individuals within a specific situation or context. Ultimately, the narrative combines views from the participants' lives with those of the researcher's life, culminating in a collaborative narrative (Chase, 2018; Clandinin, 2007, 2013; Connelly & Clandinin, 1990, 2006; Daiute, 2014; Kim, 2016). You can learn more here:
https://methods.sagepub.com/methods-map/narrative-analysis

Action research typically employs both quantitative and qualitative data collection methods, and subsequently applies both types of analysis too. Analysis unfolds during cycles of questioning, feedback, and reflection, as the researcher and research participants collaborate together to open shared "communicative spaces" in order to enhance the effectiveness and meaningfulness of their work (Mertler, 2020; Stringer & Aragon, 2021). Action research is based on the assumption that all stakeholders, those whose lives are affected by the problem under study, should be involved in the research process in order to inform understanding and subsequent action. Knowledge production unfolds and proceeds as a collective process, actively engaging people who have previously been the "subjects" or "objects" of research to collectively explore and reconcile their own situation. A report is often less important than the *process* that leads to improvement or transformation, including lessons learned and changes considered and/or made. You can learn more here: https://methods.sagepub.com/video/nataliya-ivankova-defines-action-research?seq=1

Application to Dissertation Research

As you can see, the process of data analysis and interpretation vary greatly and are undertaken differently depending on the qualitative research design that is selected. As emphasized by Bloomberg (2023) methodological congruence and alignment are critical and so careful review of your chosen research design will make clear the analytic approach or strategy that is to be closely followed and will reflect the principles and features that characterize the design you have selected. Willig (2014) offers an excellent overview of interpretation in qualitative research, including the origins of interpretation and approaches to interpretation of the major qualitative traditions or genres. Critical qualitative research, which spans a number of research designs, is concerned primarily with examining and changing economic, social, racial, cultural, and gendered relations of power. Critical researchers dig into their own positionality to become aware of their own personal and/or professional needs to conduct the research, and an important outcome of reflexivity is unearthing power dynamics and acknowledging and respecting the boundaries between researchers and research participants. This outcome is the product of both data analysis and interpretation.

FUNCTION OF THE DISSERTATION'S ANALYSIS CHAPTER

You are most likely asking yourself what the analysis chapter (or section) on analysis of findings is really all about and what it should constitute. Keeping your findings in context and thinking holistically are among the cardinal principles of qualitative analysis (Bloomberg, 2023, 2026). Seeking patterns and themes and then describing and interpreting these in the most plausible manner are the essence of thematic analysis (Bloomberg, 2023, 2026).

Seeking Patterns and Themes

Qualitative analysis is essentially about searching for patterns and themes; that is, the trends that you see emerging from among your findings. Qualitative data analysis results in the identification of recurring patterns or themes that cut through the data. Now again, when you are analyzing your findings, you look for themes once again, this time not in raw data but in the findings that have emerged. Having immersed yourself in your data and lived with them for an extended period of time, you have most likely reflected on emergent patterns and themes that run through your findings. You also have probably have some thoughts about the significance of certain outcomes, consequences, and interrelationships that you can see appearing.

Looking for emergent patterns among your findings can be considered a first round of analysis. It is important to also look across findings and across dimensions of each finding; the subsets within each finding. Bloomberg (2023) provides intricate guidance on how to "elevate your themes" by layering and interconnecting themes. This becomes important as you will want also to look not just at the findings in isolation, but more closely *across your study's findings* as well as across the multiple dimensions of each finding. In this way you begin to connect how the findings either "speak to each other" or "stand apart"; thereby contributing to a broader "*meta-synthesis"* (Bloomberg, 2023, 2026). This second round of searching for patterns can often generate new insights and usually uncovers patterns that may not immediately have been obvious or apparent in the initial round of analysis. You certainly want to determine how useful the findings are in illuminating the research questions being explored and how central they are to the story that is unfolding about the phenomenon under study. However, you also should challenge your understanding by searching for discrepancies and negative instances in the patterns. As is characteristic of qualitative research, you must be willing to tolerate ambiguity and inconsistency. Examining issues from all angles to demonstrate all plausible explanations enables readers to assess the persuasiveness of your argument.

Description and Interpretation

Once you have established patterns or themes, these need to be explained and interpreted. In this regard, you need to draw on your own experience and intuition and also consult the literature to consider your patterns in light of previous research and existing theory. Do your findings confirm similar research? Do your findings contradict previous studies? How can you explain these differences or similarities? As you begin to consider answers to these sorts of questions, you begin to *describe* and *interpret* your material. Thick, rich description provides the foundation for qualitative analysis and reporting. The details in the description are your evidence, your logic; they build your argument. Therefore, description must necessarily precede interpretation. Thick description, a term coined by Geertz (1973) is intended to convey the rich complexity of the research. Interpretation involves attaching significance to what was found; that is, making sense of findings, considering different meanings, extrapolating lessons, making inferences, and offering plausible explanations and conclusions. Interpretation involves explaining the findings, and by definition goes beyond the descriptive data.

This point in the process is where you shift from being an "objective" reporter to becoming an informed and insightful commentator or storyteller. No one has been closer to the focus of the study than you have. You have done the interviewing, studied the transcripts, and read the related literature. You have lived with and wrestled with the data. You now have an opportunity to communicate to others *what you think your findings mean* and integrate your findings with literature and research. This process requires a good deal of careful thinking and critical reflection. An interpretive reading of your data involves constructing a version of what you think the data mean or represent or what you think you can infer from the data. Interpretation essentially involves reading through or beyond the findings—that is, making sense of the findings. It is about answering the "Why?" and "Why not?" questions around the findings. To begin facilitating the kind of thinking process required, Bloomberg (2023) developed a mechanism that enables you to consider the findings in a deeper way to "peel back" all the possible reasons regarding how else a finding can be explained, thereby fleshing out the meanings that underlie each finding. This *Interpretation Outline Tool* provides an idea of how to go about preparing for the interpretation of your study's findings. Essentially, this simple but effective tool prompts and prods you strengthen your critical thinking and reflection by remember that findings should not be taken at face value, allowing you to brainstorm and exhaust all the possibilities that might explain your research findings. In effect, those explanations become the basis of your interpretations.

Centrality of Synthesis

The key role and function of the analysis chapter (or section) is to synthesize the study's findings in light of the research questions, literature review, and conceptual framework. The theoretical or conceptual framework plays a central role throughout the entire research process, and, most importantly, in the final analysis, providing coherence to the research through the theoretical or conceptual significance of the study's findings. The framework, once developed and articulated, becomes the means by which new research data can be interpreted and coded for future use, as well as a means to guide and inform future research efforts and improve professional practice. The framework ultimately also serves as a mechanism to consider and reflect on the significance and value of your research once it is completed, as well as to consider next steps and actionable recommendations. As such this is the "golden thread" that seamlessly sews your dissertation together by establishing coherence across the literature review, research problem and purpose, research questions, methodology, analysis of data, interpretation and discussion of the findings, and finally the conclusions you are able to draw (Bloomberg, 2023, 2026). Establishing credibility means that you have engaged in the systematic search for rival or competing explanations and interpretations. Integrity as a researcher is given credence by inclusion and synthesis of all information, even that which challenges inferences and prior assumptions (Bloomberg, 2023).

Qualitative research involves the move from a holistic perspective to individual parts (analysis) and then back to a holistic look at the data (synthesis). Whereas the findings chapter splits apart and separates out pieces and chunks of data to tell the "story of the research," the analysis chapter is an attempt to reconstruct a holistic understanding of your study. Analysis is intended to ultimately depict an integrated picture. What should emerge from your discussion is a layered synthesis. Synthesis is the process of pulling everything together; that is, (a) how the research questions are answered by the findings, (b) to what extent the findings emanating from your data collection methods can be interpreted in the same way, (c) how your findings relate to the literature, and (d) how the findings relate to the researcher's prior assumptions about the study. Synthesis is not, however, a linear process.

As you move toward interpretations about causes, consequences, connections, and relationships, you must be careful to avoid the simplistic linear thinking that characterizes quantitative analysis, which deals with variables that are mechanically linked out of context. Qualitative analysis is about portraying a holistic picture of the phenomenon to understand the nature of the phenomenon—which is usually extremely complex—within a given specific context. As such, synthesis becomes key. Synthesis is ongoing throughout the analytical

process and is about combining the individual units of analysis into a more *integrated whole*. From your intimate familiarity with your data, you create a cohesive whole from the isolated pieces, and lead your reader to focus on the larger issues—the broader context. One problem that tends to occur is that we become so immersed in a highly specific research topic that we are unable to step back and think about more general and fundamental disciplinary frameworks. Therefore, it's important to give your research a broader perspective by thinking about how what you have discovered may relate to issues that are related to, but that extend beyond your original research topic.

Quality Markers For Dissertation Research

Overall, the marker of good quality is that you work on the analysis and interpretation of your study's findings should be detailed, clear, logical, relevant, and credible (Bloomberg, 2023, 2026). In terms of achieving high-quality work note that limitations can occur when the analysis is simple or shallow; where synthesis is lacking; where there is no clear connection to other research literature or theory; where credibility and/or plausibility of explanations is in question; or when the chapter is generally poorly structured, presented, and articulated. There are many specific issues that can prevent a successful thematic analysis. The first is absence of conducting any actual analysis and engaging in a presentation of the themes without digging into the data by way of coding to produce an analytic narrative. Without thorough engagement in data analysis, the findings cannot present an argument to support the research questions. Weakly documented analysis can also occur if the data does not clearly support the identified themes or if there is too much overlap between the themes so that a clear story cannot be adequately developed.

To ensure that analysis has indeed been thoroughly conducted, it is essential that each step in the analytic process, including both coding and theme development, be clearly and accurately documented and explained to avoid what is known as the "black box approach" (Bloomberg, 2023, 2026). Clear and logical explanation of all steps taken establishes an "audit trail" which enhances transparency and is an indication of sound and rigorous methodological practice (Lincoln & Guba, 1985; Miles et al., 2019). Transparency of the analysis means that the reader is able to follow the researcher's reasoning and is provided the necessary information for accepting their interpretations or challenging these. Repeatability of an analysis means that the process of analysis and interpretation have been presented so clearly that another researcher applying them would reach similar conclusions. One may identify ways of improving the transparency and repeatability of qualitative analysis and the report (a) by dividing the process of interpretation into steps; and (b) making explicit all decisions and choices made in the process. The process of data analysis and interpretation of findings can never be fully formalized, and this is not the goal of qualitative research. It is above all a question of working step by step so that the process

in its entirety can be made as visible as possible to both the researcher and the reader (Bloomberg, 2023, 2026).

Finally, it is important to understand how a qualitative researcher's theoretical or conceptual framework informs data analysis. You may have thought of the framework as something a doctoral student wrote about in their literature review but did not realize how it was integrated into other components of the dissertation. Qualitative researchers balance deductive and inductive coding, using their theoretical framework as a starting point while remaining open to emergent themes and insights from the data. Understanding this interplay will be crucial as you refine your analytic approach and strive to effectively integrate and synthesize theory with your study findings. In your dissertation, and again at the dissertation defense you will be judged not on your analysis per se but rather on your synthesis; that is, the way in which you have organized your discussion around major themes, issues, or topics and the ways in which you have woven these together based on your theoretical or conceptual framework. Bloomberg (2023, 2026) emphasizes the role of a theoretical framework in designing a study and provides detailed practical guidance.

ENSURING RIGOR, TRANSPARENCY, TRUSTWORTHINESS, AND ETHICS

There are many significant issues to consider when formally writing up qualitative research, including how to make informed decisions about the purposes and focus of the study; choosing which data to incorporate; deciding whose voice is heard, and participant representation and portrayal. The power inherent in qualitative research cannot be ignored, and the representation of research participants, their contexts, and aspects of their experiences; all calling for respectful, authentic, and ethical representations of individuals, groups, and communities. Researcher positionality--and hence researcher reflexivity--intersects across all of the processes inherent in qualitative research, including determining analytical strategies, making interpretations, and thinking about representation and voice (Bloomberg, 2023, 2026). The centrality of considering ethical issues at each stage of the research process right from sample selection through data analysis and writing up the study's findings, therefore cannot be underscored. It is an ethical responsibility to examine our roles as qualitative researchers on an ongoing basis, and to challenge our implicit epistemologies, biases and assumptions. It is through structured reflexive practices and dialogic engagement that you can attempt to more closely examine—and therefore acknowledge--the many complex implications regarding the role of the qualitative researcher (Bloomberg, 2023, 2026). Transparency is essentially what enables a reader to determine whether and to what extent your interpretation was persuasive, plausible, reasonable, and convincing (Bloomberg 2023, 2026).

Researcher Credibility

Maintaining transparency throughout your study and critically confronting and engaging with our interpretations and the biases that shape these is a key consideration in presenting qualitative research findings that will be considered rigorous and trustworthy (Morgan & Ravitch, 2018). Addressing this ethical responsibility requires an ongoing reflexive approach to research that includes developing and maintaining a commitment to openness, and to ensuring the authentic, ethical, and culturally sensitive representation of research participants; their voices, their contexts, and the multiple aspects of their experiences they share with you.

Whereas in quantitative research the role of researcher is detached, with aim of being as objective as possible, in qualitative research the researcher is personally involved. As the qualitative researcher you are analyzing the data as well as interpreting the study's findings. Qualitative research is not about uncovering any single interpretive truth. Alternative understandings always exist. Therefore, to demonstrate the soundness and authenticity of your interpretation, you should be sure to search for, identify, and describe a variety of plausible explanations. As you guide the reader through your discussion, you will attempt to create a compelling argument for interpreting your findings in a specific way. The reader

should have some sense that your interpretations represent an exhaustive search for all plausible meanings. They should get the sense that you have looked at your findings from different angles, that you have taken into account all the information relevant to the analysis, and that your argument is systematically and logically constructed (Bloomberg, 2023, 2026). In the dissertation defense, you must be prepared to clarify your interpretations and defend your thinking while listening to alternative perspectives. As you approach the phase of interpreting your findings, remain open to new and unexpected possibilities. Be prepared to tolerate ambiguity. Have faith and trust in yourself as a critical thinker. Spend much time brainstorming. Also take the time to dialogue with others—in depth and critically. Ultimately, establishing the rigor and credibility of your research, including the interpretations you made and the conclusions you reached, is fundamentally linked to the idea of establishing the trustworthiness of the research.

Reflexivity

Researcher reflexivity unlocks deeper understanding and insight within the research process. It enables researchers to peel back the layers of their interpretative lenses to reveal how personal and professional backgrounds and viewpoints may color their analysis and understanding of the data. This deep dive into the self facilitates exploration of the research subject, moving beyond surface-level analysis to unearth the complexities and subtleties of human experiences and social phenomena (May & Perry, 2017). As Stahl & King (2020) explain, a researcher must be aware of what is recorded as “fact”, and what is set aside as the researcher’s own interpretive comments about the data; a process referred to as “bracketing” which is critical to reflexive analysis. Reflexivity bolsters methodological rigor and transparency, providing a detailed roadmap of the researcher's journey through the study, including theoretical, methodological, and personal reflections. Bloomberg (2023, 2025, 2026) reminds us that this level of transparency fortifies the research's credibility and lays a foundation for meaningful, insightful, and ethically grounded scholarly work.

Remembering that the human factor is both the greatest strength and the fundamental weakness of qualitative inquiry and analysis, means that as the researcher you must recognize and acknowledge the subjective nature of the claims made regarding the meaning of the data. Interviews, when analyzed reflexively, provide a mechanism for recognizing how positionality influences data collection and interpretation, ensuring that the participant's voices balance the researcher's views. These practices contribute to the overall trustworthiness of the research, ensuring it remains rigorous, transparent, and ethically sound. Reflecting on interview interactions helps the researcher identify moments where biases might have influenced responses or interpretations. Additionally, interviews can serve as a space for participants to share their perspectives on how their culture is being

understood or misunderstood by the researcher, promoting more accurate and respectful data collection.

Cultural Integrity

Qualitative research is essentially about sharing, respecting, and most importantly *authentically and ethically representing diverse voices*. Culturally responsive research not only recognizes but is sensitive to culture as central to the research process and uses the cultural standpoints of both the researcher and the research participants as a framework for research design, data collection and data interpretation (Au, 2019; Bloomberg, 2023, 2025, 2026; Lahman, 2025). Especially when researchers are engaged in research that has a cross-cultural dimension, they are obliged to explain what they did, how they did it, and why they did it, with respect to sociocultural and political dimensions, in order to ensure the study has cultural credibility. The conventional notion of credibility in qualitative research is certainly useful, provided it is adapted and applied in a culturally meaningful way, leading to establishing *cultural integrity* in qualitative research (Bloomberg, 2023, 2025, 2026). Qualitative researchers are increasingly engaged in conducting studies that pose challenges in terms of ensuring that both the conduct of the studies in question and their findings are culturally appropriate and meaningful. The ethical issues that arise in transcribing and translating others' words center on how we represent our research participants, and how we demonstrate respect for them in transposing their spoken words into text that we then manipulate through analysis and then write up as findings.

Ensuring the rigor and trustworthiness of any study is essential to ensuring the credible and meaningful application of its findings. When studies include a cross-cultural dimension, however, extra vigilance is required. This is because the rigor and trustworthiness of a qualitative study investigating an issue that has a cross-cultural dimension cannot be achieved without adapting and applying research methods in a culturally meaningful way. This becomes particularly evident as critical qualitative designs are grounded in theories that assume society is structured by class, status, race, ethnicity, gender, and sexual orientation in order to maintain the oppression of marginalized groups. A critical approach asks questions about the historical forces that shape societal patterns as well as the fundamental issues and dilemmas of power, positionality, policy, and domination in institutions, including their role in reproducing and reinforcing inequity and social injustice (Bloomberg, 2025; Saldaña, 2018).

In contexts where researchers lack in-depth knowledge and understanding of the sociocultural and political dynamics of the research setting, there is a risk of inadvertently imposing their own beliefs, values, and patterns of behavior upon the cultural settings and participants in which the study is being conducted. Without appropriate cultural sensitivity and conscious attention, researchers can indeed risk misinterpreting or misrepresenting the

data, thereby not achieving the goal of establishing “cultural integrity” (Bloomberg, 2023, 2025, 2026). In this regard, conducting member checks during and after data collection serves to build respectful relationships with your research participants. This involves, quite literally, checking with participants regarding various dimensions of your study, including your analysis and interpretation, and asking for their input and confirmation. The benefits of doing so are to mitigate researcher bias, and promote respectful representation of local contexts, customs, and traditions; all of which serves to enhance the trustworthiness of your findings. If you allow the participants voices to speak in your research, you have moved one step forward to being able to address biases!

Value of Reflective Journaling

In the qualitative inquiry process, you, as the researcher and writer, are the main instrument of data collection and data analysis. It is your task to provide personal insight into the experience under study. In quantitative research, the role of researcher is detached and the goal is to be as objective as possible. In qualitative research the researcher is personally involved and we believe that research is always value-bound. Integral to the notion of *researcher-as-instrument* is the capacity for critical thinking and insightful reflection. In the qualitative dissertation, what you bring to the inquiry is as important as what you discover. Whereas in quantitative research the impact of researcher subjectivity is considered to be a limitation that needs to be controlled for, in qualitative studies explored subjectivities are an asset that indeed enrich and enhance the work, providing an additional level of credibility.

Although researchers strive to mitigate biases and uphold impartiality, the inherent interpretative character of qualitative research implies that the researcher's perspective might still impact the findings. Researchers must consistently navigate personal biases, which could potentially influence the processes of data collection, analysis, and interpretation. As a qualitative researcher you will be driving the research process, and as the study evolves and develops, it becomes more complex and intricate. One way to ensure that you preserve your reasoning and thinking and illustrate the development of your ideas is to keep a research journal. Reflective journaling promotes transparency by ensuring that researchers acknowledge their biases, thus increasing the authenticity of the study’s findings. Active engagement in reflexive practice is a commitment to ongoing self-awareness and self-monitoring. This continuous reflection is crucial in preventing personal biases from shaping the research outcomes, particularly in culturally relevant research where the risk of misinterpreting or misrepresenting participants' experiences is higher. Recording your thinking means that you will accumulate material that can be revisited and drawn on later and that can form a substantial part of the methodology and analysis chapters of your dissertation.

Journaling allows you to be meticulous about keeping an orderly record of your research activities and your productivity. A reflexive journal is an important expression of reflexivity and a useful tool for the researcher to keep track of methodological developments and analytic decisions, and to illustrate how these decisions impacted the research process by making transparent the researcher's insights, challenges, concerns, interpretations, and reactions. In effect, a journal provides a solid link to and keeps track of the many levels of experience that are involved in the dissertation process, including your own positionality as the researcher and how and in what ways you impact the research itself.

Value of an Audit Trail

Trustworthiness is concerned with the extent to which the study is conceptually sound, based upon which the value of the qualitative research can be assessed or determined. Strategies for establishing the trustworthiness of qualitative research need to be built into the qualitative research process. One way to demonstrate trustworthiness in qualitative research is through the use of an audit trail. Establishing an audit trail enhances transparency and is an indication of sound and rigorous methodological practice (Carcary, 2021; Lincoln & Guba, 1982, 1985; Miles et al., 2019; Stahl & King, 2020). In developing an audit trail, the researcher provides an account of all research decisions and activities throughout the study, making explicit all decisions taken about theoretical, methodological and analytic choices. The audit trail serves as a means of checking and ensuring the accuracy of the data and provides a transparent and detailed record of the research process that can be examined by other researchers or reviewers, ensuring that the research findings are indeed trustworthy.

In essence, the audit trail illustrates examines both the process and product of the research inquiry to determine its trustworthiness, and is ultimately significant on two levels (Bloomberg, 2023, 2026). First, the audit trail attests to the dependability of the study from a methodological standpoint; and second, to the confirmability of the study by reviewing the data, analysis, and interpretations and assessing whether the findings accurately represent the data:

> *Dependability* means illustrating that the study's findings are consistent and able to be repeated. Qualitative research strives to be transparent, and dependability refers to whether one is able to track the processes and procedures used to collect and interpret the data. Rigorous data collection methods and procedures can assure dependability of the findings.
>
> *Confirmability* means how the researcher came to the conclusions and that the findings clearly align with the data and refers to the degree to which the study's findings can be confirmed or corroborated by others. Confirmability challenges the

researcher to confront personal biases by embracing reflexivity and peer critique as tools for authenticating interpretations.

Because a qualitative researcher serves in the role of *researcher-as instrument*, trustworthiness of the research not only depends upon the research steps taken but also upon the researcher's self-awareness and self-correction throughout the study, including all design-related decisions and any modifications made along the way. As pointed out by Lincoln and Guba (1982), an audit trail covers all key stages involving theoretical, methodological, and analytical decisions, and documents all the ways in which a researcher's thinking evolved throughout the study, right up until the development of conclusions and recommendations. The ultimate value of the audit trail lies in its ability to enhance the rigor and transparency of qualitative research through creation of a trail of evidence (Carcary, 2021; Lincoln & Guba, 1982, 1985). The use of an audit trail is important for several reasons (Bloomberg, 2023, 2026):

> First, from a researcher's perspective, the need to produce an audit trail upon completion of the study is an important factor in ensuring that significant emphasis is placed on the theoretical, methodological and analytical decisions made throughout the study and that the researcher has critically reflected on and evaluated all decisions made. Developing an audit trail encourages researchers to develop more in-depth research notes in the form of journal entries and memos, explaining research decisions and activities, thus enhancing transparency. The audit tail is a particularly useful strategy for novice researchers, as this encourages a self-questioning and reflective mindset regarding all steps in the research process to continually check the accuracy of the data and identify any errors or inconsistencies in the data and correct these.
>
> Second, research audit trails are a valuable tool in enabling other researchers, reviewers, and readers to confirm your research findings. The strategic use of research journals and field notes captures the path of inquiry and provides guidance for others to reproduce the study's findings. Quality findings, uncovered through an in-depth and transparent research process, are critical when used as the basis of further research studies. Through examining a research study and its audit trail, other researchers can independently judge whether research inferences are logical, whether findings are grounded in the data, and whether a study's research process, overall, was rigorous and trustworthy, and thus suitable as a basis for further inquiry.

This trail of activities which is typically attached as an appendix in your dissertation, provides transparent evidence of the steps taken throughout your study, supported by a thorough collection of relevant documentation. Hence, an audit trail challenges you to be *intentional and careful* about record keeping throughout the study from beginning to end (Bloomberg, 2023, 2026). Creating an effective audit trail requires attention to detail and a thorough understanding of the research process, as well as keeping the trail *updated*

throughout the research process. Clarity of presentation is essential; the audit trail needs to be comprehensive and clearly structured; that is, in chronological order, with supporting, cross referenced documentation, and described in a manner that others can easily understand. Hence, it should be created with the assumption that it will be reviewed by parties external to the research study (and perhaps from unrelated disciplines) who seek to confirm the accuracy, rigor, and legitimacy of your research process.

Value of a Positionality Statement

The role of the researcher-as-instrument demonstrates the power of the researcher to develop and conduct the research, collect and analyze the data from research participants, and interpret and represent the findings with the highest degree of fidelity possible (Bloomberg, 2023, 2026). A researcher must acknowledge and be transparent about their inherent subjectiveness, biases, and power they bring to the research study (Bloomberg, 2023, 2026). Researcher positionality plays out in our interactions and relationships with participants, especially given that the researcher and the research participants frequently hold unequal positions of power and privilege. We all bring who we are into our research work, so who we are and what roles we assume in our study translate into issues of identity, power, and conflict that emerge within the context of data collection and analysis. Critically and ethically approaching data analysis necessitates that you think about (and articulate for your readers) how your role in the creation of data impacts the arguments you ultimately make (Bourke, 2014). It is indeed an act of power to analyze and interpret someone else's reality and experience and tell their story. Critically approaching data analysis involves acknowledging the power to represent others' experiences and recognizing and addressing power differentials within data analysis as an ethical and methodological concern. As qualitative researchers, we can never fully mitigate *impositional interpretation* and *interpretive authority* (Ravitch & Mittenfelner Carl, 2020). As such we should understand power and positionality within the context of the research as a *fluid and complex issue* to be addressed with transparency and integrity.

Since description, understanding, interpretation, and communication are the primary goals of qualitative research, the researcher is the instrument for data collection and data analysis. Indeed, the strongest influence on the research process, including participant reactivity as well as the study's outcomes, starts and ends with the researcher. As a researcher, it is imperative to consider the ways in which your race, ethnicity, gender, sexual orientation, gender identity, socioeconomic class, disability status or other cultural factors, can—and in fact do-- impact the instructor/learner dynamic, the research setting, and how you "show up" and relate to and communicate with your study participants. A further aspect of a researcher stance that needs to be determined by the individual researcher is the likelihood that some personal experience has drawn you to explore the topic of interest.

These perspectives can be powerful to share with both readers and research participants and clearly help orient the study within a deeper and more meaningful context (Peña & O'Brien, 2024; Piedra, 2023).

Addressing *researcher-as-instrument* and positionality is central to your role and responsibility in upholding ethical standards in qualitative research (Shaw et al., 2020; Yoon & Uliassi, 2022). Researcher-as-instrument endorses the fact that ethical qualitative research requires that you actively manage any biases to avoid power imbalances that could unintentionally reinforce partialities or compromise the integrity of the research. Transparency about your positionality refers to openly acknowledging how your background and subjectivity shape your views and potentially influence the research process (Bloomberg, 2023, 2025, 2026; Currand & Randall, 2020; Holmes, 2020). Critical self-examination ensures that research findings authentically represent the experiences and viewpoints of participants, free from the overlay of the researcher's preconceived ideas. Open and transparent disclosure and articulation of positionality, which always remains fluid and complex, serves to explain how and in what ways the researcher believes they have influenced their research. In turn, the reader should then be able to make an informed judgment as to the researcher's influence on the research process and to what extent the research can be considered trustworthy.

Accounting for your own "position" which may have influenced your study's findings includes acknowledging biases in sampling and ongoing critical reflection of methods to ensure sufficient depth and relevance of data collection; demonstrating clarity in terms of thought processes during data analysis and subsequent interpretations; meticulous record keeping and maintaining a clear audit trail to ensure that interpretations are consistent and transparent; constant seeking out similarities and differences to ensure that different perspectives are represented; and engaging in dialogue with other researchers to reduce any underlying bias. Given the very personal nature of data collection and analysis, the use of reflective journaling is a strategy to capture the ways in which you understand and experience your identity and positionality that may impact the study, thereby providing rich material when you come to craft your positionality statement. Ultimately, recognizing, acknowledging, and articulating your own positionality and relations of power with research participants, will indeed be a critical step in enhancing the credibility of your study.

References

Alase, A. (2017). The interpretative phenomenological analysis (IPA): A guide to a good qualitative research approach. *International Journal of Education and Literacy Studies, 5*(2), 9-19. https://eric.ed.gov/?id=EJ1149107

Armstrong, C. (2022). Key methods used in qualitative document analysis. SSRN Electronic Journal http://dx.doi.org/10.2139/ssrn.3996213

Au, A. (2019). Thinking about cross-cultural differences in qualitative interviewing: Practices for more responsive and trusting encounters. *The Qualitative Report*, 24(1), 58-77.

Ayik, B., Gu, D., Zan, Y., Kim, S., & Kim, W. L. (2026). Human vs. AI: Evaluating Thematic Analysis With ChatGPT, QInsights, ATLAS.ti AI, and MAXQDA AI Assist. *Qualitative Inquiry*, *0*(0). https://doi.org/10.1177/10778004251412874

Banks, M. (2018). *Using visual data in qualitative analysis*. (2nd ed.). Sage.

Bazeley, P. (2021). *Qualitative data analysis: Practical strategies*. (2nd ed.). Sage.

Bingham, A. J., & Witkowsky, P. (2020). Deductive and inductive approaches for qualitative data analysis. In C. Vanova, C., P., Mihas, P., & J. Saldana, J. (Eds.), *Analyzing and interpreting qualitative research* (pp. 133-148). Sage.

Blair, E. (2015). A reflexive exploration of two qualitative data coding techniques. *Journal of Methods and Measurement in the Social Sciences, 6*(1), 14-29. doi: https://doi.org/10.2458/v6i1.18772

Bloomberg, L. D. (2018). Case study method. In B. B. Frey (Ed.), *The Sage encyclopedia of educational research, measurement, and evaluation* (pp. 237–239). Sage.

Bloomberg, L. D. (2023). *Completing your qualitative dissertation: A road map from beginning to end. (5th ed.). Sage.*

Bloomberg, L. D. (2025). *Critical Qualitative Research: Underlying Philosophy, Foundational Principles, and Real-World Application to Dissertation Research*. https://hdl.handle.net/20.500.11803/3941

Bloomberg, *L. D. (2026). 101 Golden Nuggets for Preparing a Qualitative Dissertation*. Sage.

Boreus, K., & Bergstrom, G. (Eds.). (2017). *Analyzing text and discourse: Eight approaches for the social sciences*. Sage.

Bourke, B. (2014). Positionality: Reflecting on the Research Process. *The Qualitative Report, 19*(33), 1-9. https://doi.org/10.46743/2160-3715/2014.1026

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2022a). Conceptual and design thinking for thematic analysis. *Qualitative Psychology, 9*(1), 3–26. https://doi.org/10.1037/qup0000196

Braun, V., & Clarke, V. (2022b). Toward good practice in thematic analysis: Avoiding common problems and be(com)ing a knowing researcher. *International Journal of Transgender Health, 24*(1), 1–6. https://doi.org/10.1080/26895269.2022.2129597

Brinkmann, S. (2014). Doing without data. *Qualitative Inquiry*, *20*, 720–725.

Bryda, G., & Sadowski, D. (2024). From words to themes: AI-powered qualitative data coding and analysis. In: J. Ribeiro, C. Brandão, M. Ntsobi, J. Kasperiuniene, & A.P. Costa (eds) Computer supported qualitative research. Springer. https://doi.org/10.1007/978-3-031-65735-1_19

Byrne, D. (2022). A worked example of Braun and Clarke's approach to reflexive thematic analysis. *Quality & Quantity*, 56, 1391-1412. https://doi.org/10.1007/s11135-021-01182-y

Carcary, M. (2021). The research audit trail: Methodological guidance for application in practice *The Electronic Journal of Business Research Methods*, 18(2), 166-179. https://academic-publishing.org/index.php/ejbrm/article/view/2033/1940

Charmaz, K. (2008). Grounded theory as an emergent method. In S. N. Hesse-Biber & P. Leavy (Eds.), *Handbook of emergent methods* (pp. 155–170). Guilford Press.

Charmaz, K. (2015). *Constructing grounded theory* (2nd ed.). Sage.

Charmaz, K. (2020). Grounded theory: Main characteristics. In M. Jarvinen & N. Mik-Meyer (Eds.). *Qualitative analysis: Eight approaches for the social sciences* (pp. 195-222). Sage.

Charmaz, K., Thornberg, R., & Keane, E. (2018). Evolving grounded theory and social justice inquiry. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (5th ed., pp. 411–443). Sage.

Chase, S. E. (2018). Narrative inquiry: Toward theoretical and methodological maturity. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE handbook of qualitative research* (5th ed., pp. 546–560). Sage.

Cheek, J. Oby, E. (2023). *Research design: Why thinking about design matters*. Sage.

Clandinin, D. J. (Ed.). (2007). *Handbook of narrative inquiry: Mapping a methodology*. Sage.

Clandinin, D. J. (2013). *Engaging in narrative inquiry*. Left Coast Press.

Clarke, V. & Braun, V. (2013) Teaching thematic analysis: Overcoming challenges and developing strategies for effective learning. *The Psychologist*, 26(2), 120-123

Connelly, F. M., & Clandinin, D. J. (1990). Stories of Experience and Narrative Inquiry. *Educational Researcher, 19*(5), 2–14.

Connelly, F. M., & Clandinin, D. J. (2006). *Narrative inquiry: Experience and story in qualitative research*. Jossey-Bass.

Corbin, J., & Strauss, A. (2015). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (4th ed.). Sage.

Creswell, J. W. & Poth, C. N. (2025). *Qualitative inquiry and research design: Choosing among five approaches* (5th ed.). Sage.

Christou, P. (2024). Thematic analysis through artificial intelligence (AI). Qualitative Report, 29(2), 560–576. https://doi.org/10. 46743/2160-3715/2024.7046

Currand. M., & Randall, A. K. (2020). *Positionality Statements* https://iarr.org/documents/Positionality%20Statements_Final.pdf

Daiute, C. (2014). *Narrative inquiry*. Sage.

Davison, R. M., Chughtai, H., Nielsen, P., Marabelli, M., Iannacci, F., van Offenbeek, M., Tarafdar, M., Trenz, M., Techatassanasoontorn, A. A., D´ıaz Andrade, A., & Panteli, N. (2024). The ethics of using generative AI for qualitative data analysis. *Information Systems Journal,* 34(5), 1433–1439. https://doi.org/10.1111/isj.12504

Denzin, N. K., & Lincoln, Y. S. (2000). Preface. In N. K. Denzin and Y. S. Lincoln (Eds.). *Handbook of qualitative research* (2nd ed., pp. ix-xx). Sage.

Elliott, V. (2018). Thinking about the Coding Process in Qualitative Data Analysis. *The Qualitative Report*, *23*(11), 2850-2861. https://doi.org/10.46743/2160-3715/2018.3560

Emmison, M. (2017). Visual inquiry: Issues and developments. In D. Silverman (Ed.), *Qualitative research* (4th ed., pp. 297–310). Sage.

Finlay, L. (2021). Thematic analysis: The 'good', the 'bad' and the 'ugly'. *European Journal for Qualitative Research in Psychotherapy*, *11*, 103–116.

Freeman, M. (2017). *Modes of thinking for qualitative data analysis*. Routledge.

Friedman, C., Owen, A., & VanPuymbrouck, L. (2024). Should ChatGPT help with my research? A caution against artificial intelligence in qualitative analysis. *Qualitative Research*, *0*(0). https://doi.org/10.1177/14687941241297375

Friese, S. (2026). From Coding to Conversation: A New Methodological Framework for AI-Assisted Qualitative Analysis. *Qualitative Inquiry*, *0*(0). https://doi.org/10.1177/10778004251412871

Fusch, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *The Qualitative Report, 20*(9), 1408-1416. https://nsuworks.nova.edu/tqr/vol20/iss9/3

Gee, J. P. (2014). *An introduction to discourse analysis: Theory and method* (4th ed.). Routledge.

Gee, J. P. (2016). Discourse analysis matters: Bridging frameworks. *Journal of Multicultural Discourses*, 11(4), 343–359. https://doi.org/10.1080/17447143.2016.1226316

Geertz, C. (1973). *The interpretation of cultures*. Basic Books.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Aldine Publishing.

Guba, E. G., & Lincoln, Y. S. (1982). Epistemological and methodological bases of naturalistic inquiry. *Educational Technology and Research Development*, *30*(4), 233–252.

Guest, G., MacQueen, K., & Namey, E. E. (2012). *Applied thematic analysis*. Sage.

Guest, G.; Namey, E.; & Chen M. (2020). A simple method to assess and report thematic saturation in qualitative research. *h. PLoS ONE 15*(5): e0232076. https://doi.org/10.1371/journal. pone.0232076

Hammond, C. (2010). Interpretative phenomenological analysis: Theory, method, and research. *British Journal of Psychology, 101*(2), 378-378. https://doi:10.1348/000712610X491153

Hennink, M. M., Kaiser, B. N., & Marconi, V. (2017). Code saturation versus meaning saturation: How many interviews are enough? *Qualitative Health Research, 27*(4), 591–608. https://doi.org/10.1177/1049732316665344

Hennink, M. M., & Kaiser, B.N. (2022). Sample sizes for saturation in qualitative research: A systematic review of empirical tests. *Social Sciences and Medicine,* 292, Article 11423.

Holmes, G. D. (2020). Researcher Positionality - A Consideration of its influence and place in qualitative research - A new researcher guide. *International Journal of Education 8*(4), 1-10. https://files.eric.ed.gov/fulltext/EJ1268044.pdf

Hyde, K. F. (2000). Recognizing deductive processes in qualitative research. *Qualitative Market Research: An International Journal*, 3(2), 82–90. https://doi.org/10.1108/13522750010322089

Jarvinen, M., & Mik-Meyer, N. (2020). (Eds.). *Qualitative analysis: Eight approaches for the social sciences*. Sage.

Jowsey, T., Braun, V., Clarke, V., Lupton, D., Fine, M. (2025). We reject the use of generative artificial intelligence for reflexive qualitative research. *Qualitative Inquiry Online First*, Sage https://doi.org/10.1177/10778004251401851

Kennedy, B. L., & Thornberg, R. (2018). Induction, deduction, and abduction. In U. Flick, (Ed.), *The Sage handbook of qualitative data collection*. (pp. 49-64). Sage.

Kim, J. (2016). *Understanding narrative inquiry: The crafting and analysis of stories as research*. Sage.

Kleinheksel, A. J., Rockich-Winston, N., Tawfik, H., & Wyatt, T. R. (2020). Demystifying content analysis. *American Journal of Pharmaceutical Education, 84(1),* 127-137. https://doi.org/10.5688/ajpe7113

Krippendorff, K. (2019). *Content analysis: An introduction to its methodology* (4th ed.). Sage.

Kuckartz, U. (2019). Qualitative content analysis: From Krakauer's beginnings to today's challenges. *Forum: Qualitative Research, 20*(3) Article 12. https://www.qualitative-research.net/index.php/fqs/article/view/3370

Lahman, M. K. (2025). *An introduction to qualitative research: Becoming culturally responsive*. Sage.

Lester, J. N., Cho, Y., & Lochmiller, C. (2020). Learning to Do Qualitative Data Analysis: A Starting Point. *Human Resource Development Review*, *19*(1), 94-106. https://doi.org/10.1177/1534484320903890

Lincoln, Y. S., & Guba, E. G. (1982). *Establishing dependability and confirmability in naturalistic inquiry through an audit*. https://files.eric.ed.gov/fulltext/ED216019.pdf

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage.

Loseke, D. R. (2022). *Narrative as topic and method in social research*. The Qualitative Research Methods Series, Sage. http://www.academicjournal.in/archives/2018/vol3/issue2/3- 2-114

Malterud, K., Siersma, V. K., & Guassora, A. D. (2016). Sample size in qualitative interview studies: Guided by information power. *Qualitative Health Research, 26*(13), 1753–1760. https://doi.org/10.1177/1049732315617444

Mandal, P. C. (2018). Saturation in qualitative research: Considerations and limitations. *International Journal of Academic Research and Development, 3*(2), 624–628.

Manning, J. (2017). In vivo coding. In J. Matthes (Ed.), *The International encyclopedia of Communication Research Methods*. Riley-Blackwell. https://doi.org/10.1002/9781118901731.iecrm0270

Marshall, C., Rossman, G. B., & Blanco, G. L. (2022). *Designing qualitative research* (7th ed.). Sage.

Maxwell, J. A. (2018). Qualitative data analysis: In B. B. Frey (Eds). *The SAGE encyclopedia of educational research, measurement, and evaluation*. (pp. 1335-1339). Sage.

May, T., & Perry, B. (2017). *Reflexivity: The Essential Guide*, Sage.

Mertler, C. A. (2020). *Action research: Improving schools and empowering educators* (6th ed.). Sage.

Miles, M. B., Huberman, A. M., & Saldana, J. (2019). *Qualitative data analysis: A methods sourcebook* (4th ed.). Sage.

Morgan, D. L. & Ravitch, S. M. (2018). Trustworthiness. B. Frey (Ed.), *The Sage encyclopedia of educational research, measurement, and evaluation* (pp. 1729-1731). Sage.

Morgan, H. (2022). Conducting a Qualitative Document Analysis. *The Qualitative Report*, *27*(1), 64-77. https://doi.org/10.46743/2160-3715/2022.5044

Mortari, L. (2015). Reflectivity in research practice: An overview of different perspectives. *International Journal of Qualitative Methods*, *14*(5), 1-9. https://doi.org/10.1177/1609406915618045

Moustakas, C. (1994). *Phenomenological research methods*. Sage.

Nelson, J. (2017). Using conceptual depth criteria: Addressing the challenge of reaching saturation in qualitative research. *Qualitative Research, 17*(5), 554-570.

Nicmanis, M. & Spurrier, H. (2025). Getting Started with Artificial Intelligence Assisted Qualitative Analysis: An Introductory Guide to Qualitative Research Approaches with Exploratory Examples from Reflexive Content Analysis. *International Journal of Qualitative Methods,* Sage, Volume 24, 1-14. https://doi.org/10.1177/160940692513548

Nizza, I. E., Farr, J., & Smith, J. A. (2021). Achieving excellence in Interpretative Phenomenological Analysis (IPA): Four markers of high quality. *Qualitative Research in Psychology, 18(*3), 369–386. https://doi.org/10.1080/14780887.2020.1854404

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods, 16*(1), 1. https://doi.org/10.1177/1609406917733847

Patton, M. Q. (2015). *Qualitative research and evaluation methods: Integrating theory and practice* (4th ed.). Sage.

Peña, T., & O'Brien, J. (2024, March 22). *The purpose and value of positionality statements*. Inside Higher Ed. https://www.insidehighered.com/opinion/career-advice/2024/03/22/five-reasons-include-positionality-statements-your-writing-opinion

Piedra, L. M. (2023). Positionality—An analytical building block. *Qualitative Social Work*, *22*(4), 611-618. https://doi.org/10.1177/14733250231183294

Rapley, T. (2018). *Doing conversation, discourse, and document analysis: The Sage qualitative research kit* (2nd ed.). Sage

Ravitch, S. M., & Mittenfelner Carl, N. (2020). *Qualitative research: Bridging the conceptual, theoretical, and methodological* (2nd ed.). Sage.

Reyes, V., Bogumil, E., & Welch, L.E. (2024). The living codebook: Documenting the process of qualitative data analysis. *Sociological Methods & Research, 53*(1), 89-120.

Rose, G. (2023). *Visual methodologies: An introduction to researching with visual materials* (5th ed.). Sage.

Saetre, A. S., & Van de Ven, A. (2021). Generating theory by abduction. Academy of Management Review, 46(4), 684–701. https://doi.org/10.5465/amr.2019.0233

Saldaña, J. (2018). Researcher, analyze thyself. *International Journal of Qualitative Methods, 17*(1), 1-7.

Saldaña, J. (2021). *The coding manual for qualitative researchers* (4th ed.). Sage.

Saunders, B., Sim, J., Kingstone, T., Baker, S., Waterfield, J., Bartlam, B., Burroughs, H., & Jinks, C. (2018). Saturation in qualitative research: Exploring its conceptualization and operationalization. *Quality & Quantity, 52*(1), 1893–1907. https://doi.org/10.1007/s11135-017-0574-8

Sebele-Mpofu, F. Y. (2020) Saturation controversy in qualitative research: Complexities and underlying assumptions. A literature review, *Cogent Social Sciences 6*(1), 1-17. https://doi.org/10.1080/23311886.2020.1838706

Shaw, R.M., Howe, J., Beazer, J., & Carr, T. (2020). Ethics and positionality in qualitative research with vulnerable and marginal groups. *Qualitative Research, 20*(3), 277-293. https://doi.org/10.1177/1468794119841839

Sim, J., Saunders, B., Waterfield, J., & Kingstone, T. (2018). Can sample size in qualitative research be determined a priori? *International Journal of Social Research Methodology 21*(5), 619–634. https://doi.org/10.1080/13645579.2018.1454643

Smith, J. A., & Fieldsend, M. (2021). Interpretative phenomenological analysis. In P. M. Camic (Ed.), *Qualitative research in psychology: Expanding perspectives in methodology and design* (2nd ed., pp. 147–166). American Psychological Association. https://doi.org/10.1037/0000252-008

Smith, J. A., & Nizza, I. E. (2022). *Essentials of interpretive phenomenological analysis*. American Psychological Association.

Spradley, J. (1979). *The ethnographic interview*. Harcourt Brace Jovanovich College.

Stahl, N. A. & King, J. R. (2020). Expanding approaches for research: Understanding and using trustworthiness in qualitative research. *Journal of Developmental Education, 44*(1), 26-28. https://files.eric.ed.gov/fulltext/EJ1320570.pdf

Stake, R. E. (1978). The case study method in social inquiry. *Educational researcher, 7*(2), 5-8. https://doi.org/10.3102/0013189X007002005

Stake, R. E. (1995). *The art of case study research*. Sage.

Stake, R. E. (2005). Qualitative case studies. In N. K. Denzin and Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp. 443–466). Sage.

Stake, R.E., (2006). *Multiple Case Study Analysis*. Guilford.

Stake, R. E. (2024). Qualitative Case Studies. In N. K. Denzin, Y. S. Lincoln, M. D. Giardina & G. S. Cannella (Eds.). *The Sage handbook of qualitative inquiry* (6ed., pp. 121-141). Sage.

Stake, R., & Visse, M. (2023). Case study research. In *International encyclopedia of education* (4th ed., Vol. 12, pp. 85–91). Elsevier Ltd. https://doi.org/10.1016/B978-0-12-818630-5.11010-3

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed.). Sage.

Stringer, E. T., & Aragon, A. O. (2021). *Action Research*. (5th ed.). Sage.

Tatano Beck, C. (2021). *Introduction to phenomenology: Focus on methodology*. Sage.

Thomas, D. R. (2006). A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation*, *27*(2), 237-246. https://doi.org/10.1177/1098214005283748

Tight, M. (2024). Saturation: An overworked and misunderstood concept. *Qualitative Inquiry, 30(*7), 577-583.

Tracy, S. J. (2026). Practicing qualitative research under the “big-tent”. Origins, development, and continuing relevance of the eight big-tent framework for qualitative quality. *Qualitative Inquiry*, *32*(3-4), 247–256. https://doi.org/10.1177/10778004251348167

Tuffour, I. (2017). A critical overview of interpretative phenomenological analysis: A contemporary qualitative research approach. *Journal of Healthcare Communications*, *2*(4), 52. http://repository.uwl.ac.uk/id/eprint/4082

UNESCO Report (2023). *Guidance for generative AI in education and research*. https://unesdoc.unesco.org/ark:/48223/pf0000386693

Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing & Health Sciences, 15*(3), 398–405.

Van Maanen, J. (1988). *Tales of the field: On writing ethnography*. University of Chicago Press.

Van Maanen, J. (Ed.). (1995). *Representation in ethnography*. Sage.

Van Maanen, J. (2006). Ethnography then and now. *Qualitative Research in Organizations and Management*, *1*(1), 13–21.

van Manen, M. (1990). *Researching lived experience: Human science for an action sensitive pedagogy*. State University of New York Press.

van Manen, M. (2016). *Phenomenology of practice*. Routledge.

van Manen, M. (2023). *Phenomenology of practice: Meaning-giving methods in phenomenological research and writing* (2nd ed.). Routledge.

van Rijnsoever, F. J. (2017). (I Can’t Get No) Saturation: A simulation and guidelines for sample sizes in qualitative research. *PLoS ONE, 12*(7): e0181689. doi: 10.1371/journal.pone.0181689 https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0181689

Vollstedt, M., & Rezat, S. (2019). An introduction to grounded theory with a special focus on axial coding and the coding paradigm. *Compendium for Early Career Researchers in Mathematics Education, 13*(1), 81-100.

Williams, M. & Moser, T. (2019). The art of coding and thematic exploration in qualitative research. *International Management Review, 15*(1), 45-55.

Willig, C. (2014). Interpretation and analysis. In U. Flick (Ed.), *The Sage handbook of qualitative data analysis* (pp. 136–149). Sage.

Wooffitt, R. (2014). *Conversation analysis and discourse analysis: A comparative and critical introduction*. Sage.

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage.

Yoon, B., & Uliassi, C. (2022). "Researcher-as-Instrument" in qualitative research: The complexities of the educational researcher's identities. *The Qualitative Report*, *27*(4), 1088–1102. https://doi.org/10.46743/2160-3715/2022.5074

Reader, I greatly appreciate your interest in this open access resource and welcome your feedback. Can you think of any topics that should have been included or areas that need expansion? Do you have suggestions about how to improve this resource? Are there any new resources or relevant materials and information you can share with me that address any aspect of qualitative data analysis? I am always looking for current sources!

All suggestions and comments are more than welcome! You can send these to me at my academic e-mail (lbloomberg@nu.edu) or my personal e-mail (lindalanta@gmail.com).

Many thanks!

Linda Bloomberg