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Chapter VI

Research Methodology: Qualitative Methods

Prof. Sangeeta Mittal

Department of English, Maharaja Agrasen College (University of Delhi)

Abstract

This chapter explores qualitative research methods, emphasizing their significance in academic and professional research. It discusses the systematic inquiry of research, aiming to build on existing knowledge while solving specific problems. The chapter outlines key steps in the research process, from defining a research problem to creating a research design and compiling findings. Special attention is given to qualitative methods such as ethnography, grounded theory, phenomenology, narrative inquiry, and case studies, with a focus on how they explore human experiences in context. The evolution of research in the digital era is also discussed, highlighting the role of online tools and digital platforms in enhancing modern research methodologies.

Keywords: Qualitative Research, Ethnography, Research Methodology, Grounded Theory, Digital Research

What is research? Research is a term we frequently encounter at different stages—whether you're working on projects, assigned tasks during internships, or planning academic careers. The term "research" is common in various contexts, but many of you might feel your research journey hasn't officially started. You may associate research with higher education or professional work, such as a PhD or tasks in an organization or internship. However, research is something you have likely engaged in during your undergraduate studies through assignments or student projects, and even earlier, at the school level, in the form of projects.

The formal training and structured approach to research are often missing at both school and college levels. Today, the CBCS curriculum includes a research methodology course, but it usually

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comes much later, possibly in the third year, and is offered to a niche group of students. As seen in presentations by Guntasha Ma'am and Vijeta Ma'am, academic writing at the undergraduate level also involves research. This is why discussing research early on is a valuable idea. Understanding research methods and techniques at an early stage helps in consciously applying them instead of stumbling from one method to another.

The aim of this presentation is to familiarize you with essential research terms and methods, as research is something we engage in across various capacities, whether in academic or corporate environments. To perform well in these areas, it is important to internalize key research concepts. To begin, research can be seen as a formalized curiosity, an investigation into knowledge. Research is not just "search" but a systematic inquiry that builds upon an existing body of knowledge. It involves scientific inquiry to learn new facts, test ideas, and solve problems through the collection, analysis, and interpretation of data. Research generates new knowledge and answers specific questions or solves problems.

At some point, you have all engaged in research, whether for an assignment or a project. Research generally follows an eight-step process, which includes: deciding what to research, conceptualizing a research design, constructing data collection instruments, selecting a sample, writing a research proposal, collecting data, processing and displaying data, and finally, writing a research report. The first step, deciding what to research, is a long and demanding process. You must be passionate and resilient to see it through. Once you know what you want to research, the next step is conceptualizing a research design—a plan outlining how you will conduct the research. You can’t just start anywhere; you need a structured plan to guide the entire process.

Next, you'll need to develop instruments for data collection, such as interviews, surveys, or observations. You'll also have to choose a sample, as you cannot collect data from an entire population. After gathering your data, you process and analyse it, and finally, compile your findings into a research report, which summarizes your entire research. In this process, research design plays a crucial role, ensuring the smooth execution of your research project. It helps you choose the

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appropriate methods and techniques for your study, such as qualitative or quantitative research, or exploratory versus explanatory research. Familiarity with these terms and concepts is essential to successfully navigate the research process.

Research methods refer to the tools and techniques used to solve specific problems. They include various procedures, schemes, and algorithms employed during a study. These methods help in collecting data, drawing samples, and finding solutions based on facts, measurements, and observations. Research methods focus on explanation through data, not just reasoning, making them essential for systematic inquiry. What is methodology? While research methods, such as case studies, involve studying specific cases and drawing conclusions, methodology goes beyond individual methods. For instance, if you're studying an innovative company like Apple, that case study is one method. However, research often involves a combination of different methods. Methodology refers to this comprehensive approach, serving as a roadmap for solving a problem from start to finish. It outlines the systematic way in which research is conducted. In essence, methodology ensures that the research methods align with the research intent. If your aim is to identify an anomaly in a particular sample, your chosen method should reflect that objective. Thus, research methodology is the overall framework, encompassing all the methods you use and ensuring their suitability and adequacy. It's the guiding philosophy behind the research process.

Research design is another key concept you'll encounter. It involves combining both research methods and methodologies to form a coherent plan. For example, if you're conducting explanatory research, you'll use certain methods; if you're pursuing critical research, you'll employ others. Research design is the complete blueprint that emerges from this process, offering a structured approach to answering research questions or solving problems. A well- constructed research design serves as a full, detailed plan for the research process. Just as you wouldn't begin a project without a clear plan, the same applies to research—you need to identify the problem and decide on the methods and methodologies that best suit your study. The better organized and clearer your design, the smoother your research process will be, reducing potential frustrations along the way. So far, we've discussed the nature of research and the eight steps involved. After identifying a problem, the next

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step is developing a research design, which combines research methods with methodology. It's important to understand the different types of research to build an appropriate design.

Research can be classified in various ways. From the perspective of application, research can be either pure or applied. From the perspective of objectives, it can take the form of exploratory, descriptive, correlational, or explanatory research. Additionally, research can be categorized by the type of data used, which can be either quantitative or qualitative. These categories are common frameworks that researchers use. Think of research design as assembling a bouquet from different flowers—you choose specific methods based on your research problem and objectives. The design is not just about making something beautiful, but also about ensuring that it meets the research goals. For example, if your research problem calls for red roses, you'll choose those, and if it needs a harmonious blend of colours, you'll select accordingly. Your research design depends on what you aim to investigate. If your research problem is suited to a particular method, you'll use that method. Ultimately, you must progress from identifying the research problem, as outlined in the eight-step process, to completing a comprehensive and substantive research report. This approach guides the selection of appropriate methods.

Now, let's explore the distinction between pure and applied research. When starting a project, you might wonder whether it falls into the pure or applied research category. Pure research, as the term suggests, is conducted without a specific goal in mind. Its main objective is to advance knowledge—whether you're driven by curiosity, working in an R&D department, or simply passionate about a subject like physics. The purpose is to understand how things work, without any immediate practical application. Pure research is also referred to as basic research. It can be exploratory, descriptive, or explanatory, though it often leans toward the explanatory side. The goal is to expand knowledge by identifying new ideas, theories, principles, and ways of thinking. The findings of pure research may not have immediate use but are often applied later. For instance, when Marie Curie discovered x-rays, she didn't know their potential application, but her work eventually led to the development of x-ray machines. Similarly, research on conductivity eventually resulted in the invention of transistors. Pure research lays the foundation for applied research.

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On the other hand, applied research is conducted with a specific goal, often to solve a practical problem. It may stem from pure research or begin with a particular issue that needs addressing. For example, during a pandemic, applied research would focus on solving the problem at hand, like developing a vaccine. Applied research aims to solve real-world issues, making it descriptive in nature—it identifies the problem, explains how it was resolved, and shows how materials or knowledge were used. Applied research relies on theories and principles discovered through pure research, and its findings have immediate utility. The distinction between pure and applied research has become nearly synonymous with the terms "science" and "technology." In pure science, we advance knowledge, while in applied research, we create appliances, instruments, and other practical tools. The relationship between science and technology mirrors that of pure and applied research. It's also similar to the relationship between discovery and invention. In pure research, you're experimenting and exploring without knowing where it will lead. In applied research, you use known materials to create something tangible, like a telephone or a television. This divide between pure and applied research is longstanding. Some researchers prefer pure research, driven by the pursuit of knowledge, while others are more focused on practical applications. When choosing a project or research path, it’s important to consider whether it falls into the pure or applied category. Over time, the dynamics between pure and applied research have shifted. Historically, pure research was considered more prestigious, while applied research was seen as its "lesser" counterpart. However, as human life became more complex—particularly after the two world wars— technology and applied research gained prominence. The urgent need for technological advancements led to the establishment of large laboratories working around the clock. Applied research became increasingly valued, often surpassing pure research in importance.

Today, the utility and application of research have become a priority, largely driven by corporate interests. Major industries now fund basic research, as applied research alone cannot sustain progress without the foundational insights provided by pure research. Basic research has traditionally been conducted in universities, where there is growing recognition that it should be integrated with applied research. However, the infrastructure supporting applied research has become so advanced that

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corporations involved in applied research have started funding basic research. This is because basic research is essential for fuelling applied research.

Historically, basic research was highly valued, but over time, as human life became more complex, the emphasis on applied research grew. Applied research now holds more importance, receiving greater funding and attention, while basic research often struggles to secure resources and recognition. Applied research has gained prominence due to its immediate practical applications, often supported by corporate industries, while basic research lays the groundwork for future discoveries. There has always been a distinction between basic and applied research, with basic research often seen as more prestigious and intellectual, while applied research was associated with manual labour. In the past, pure research was viewed as the domain of the elite, while applied research was linked to the working class, such as labourers in workshops. However, as the modern global economy evolved, this distinction became less rigid. Today, there is a continuous interaction between academia, where basic research is conducted, and industries, which focus on applied research. As industries increasingly collaborate with universities, there is a blurring of the lines between pure and applied research. This relationship has led some scholars to suggest that the dichotomy between basic and applied research is outdated, as most research today is a combination of both. Applied research has become more formalized and sophisticated, often funding basic research for long-term advancements. Therefore, when considering the distinction between basic and applied research, it is essential to take into account the historical, economic, and human contexts in which these types of research operate.

Moving forward, we also need to understand the various types of research. Research can take different forms, such as exploratory, descriptive, correlational, or experimental. These terms are critical when developing a research design. If asked to explain the type of research you plan to undertake, you should be able to clearly define these terms and understand their significance. Exploratory research, for example, investigates a problem that is not clearly defined. There may be a gap in knowledge, but you don't fully understand the issue yet. For instance, you may notice frequent waterlogging in a particular city but aren't sure what causes it. Exploratory research helps clarify such vague problems and identify the factors contributing to them. Exploratory research involves investigating a poorly

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defined problem by looking around and narrowing down the issue. This type of research aims to clarify the problem, unlike descriptive research, which focuses on explaining the characteristics of a population or phenomenon. For example, you may want to investigate the benefits that women in villages derive from operating mobile phones. In descriptive research, you'd describe these benefits in detail, unlike exploratory research, where the goal is to define the problem itself.

Correlational research, on the other hand, is non-experimental and examines relationships between two variables. For instance, you may analyse whether there is a relationship between height and math skills in boys, even if it seems like an unusual comparison. Correlational research involves taking two sets of data and analysing how they relate. Explanatory research seeks to investigate phenomena that haven't been studied well or require further clarification. It provides more details on topics where only limited information is available. For instance, in cybersecurity, explanatory research might focus on educating people about various cyber threats they may not be aware of. The goal is to offer a clear explanation of lesser-known phenomena.

Once you've determined whether your research is pure or applied, you can choose the appropriate method based on the problem you're investigating. If you're dealing with exploratory research, it helps define the problem more precisely, isolate key variables, and establish relationships, providing insights for further research or hypothesis development. For example, if you're studying flora conservation in a specific region, exploratory research would involve finding out what's happening with conservation efforts in that area. Descriptive research focuses on the "what" of a phenomenon rather than the "why," providing detailed descriptions of the characteristics of the population or phenomena studied. It often involves surveys and case studies. Descriptive research aims to go beyond identifying a problem and delves into explaining the finer details of the research subject.

Correlational research, often conducted through naturalistic observation or surveys, investigates whether two variables have a relationship, even if there is no documented connection between them. This type of research can also involve combining data from different studies, as seen in fields like digital humanities, where researchers explore the intersection of digital education and the humanities.

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Finally, qualitative and quantitative research differ primarily in the type of data they analyse. Qualitative research deals with non-numerical data, aiming to explore and understand phenomena, behaviour, and the "what," "how," and "why" of a situation. In contrast, quantitative research focuses on measuring data and answering questions related to "how many" or "how much."

To briefly summarize, there are five main classical qualitative approaches: ethnography, grounded theory, phenomenology, narrative inquiry, and case study. These approaches are used across various types of qualitative research.

1. Ethnography focuses on studying individuals or groups within their social and cultural environments. For instance, you might explore the experiences of northeastern students in a university setting to understand how their position in the demographic landscape affects their experience.

2. Grounded Theory involves analysing data to develop a theory. The data is not interpreted in numerical terms but rather in a descriptive or explanatory way, drawing insights based on observed phenomena.

3. Phenomenology centres on understanding the meanings and social constructions in human experience. Researchers are part of the study, recognizing that bias is inherent in research, and participants share knowledge and perspectives. This approach immerses both the researcher and participants in the phenomenon being studied.

4. Narrative Inquiry uses stories as raw data. In this approach, the stories collected form the basis for drawing conclusions about the subject of study.

5. Case Study involves a detailed exploration of a particular phenomenon within a specific context. This method uses various data sources to demonstrate the phenomenon in real- time and within real-world settings.

These approaches provide a foundation for conducting qualitative research, and any of them can serve as the basis for inquiry, depending on the nature of the study. In today’s global era, the internet and

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technology have significantly changed research methodology. We now have access to tools such as online focus groups, online interviews, qualitative research software, text analysis, and social network analysis. These technologies have introduced a new category of research—online research—that is now essential and cannot be ignored. There are numerous tools and services available online, including plagiarism checkers and various research platforms. The internet offers an expanding array of research tools, from thirty to potentially fifty or more, available to assist researchers. In conclusion, while we continue to utilize classical research designs and methodologies, the modern digital landscape has created new opportunities and challenges in the field of research.

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