Rigor in Qualitative research: Promoting quality in Social Science Research

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Abstract

Internationally, there is an increasing call for in-depth and rigorous research to enhance the evidence-based practice of most of the practice professions. This article is reviewing various published articles on rigor of qualitative research and discusses on the various criteria presented in these articles to ensure credibility, transferability, dependability, and conformability. For the purpose of this analysis, the author has selected five published articles those analyses rigor in qualitative research. Majority of these articles based their rigor criteria in the suggestions provided by Lincoln and Guba. In-depth analysis also shows that authors tried to develop further new parameters ensure the credibility of qualitative researches. Finally, the author is summarizing the major suggestions provided in these articles to ensure the rigor of qualitative research studies.

Keywords: Qualitative methods, research methods, rigor.

Introduction

The ever-complicated branch of scientific inquiry is always intertwined with the dichotomy of objectivity and subjectivity. Within these two different approaches of objectivity and subjectivity, various research inquiries rely on the paradigms for its basic philosophy. While positivist, and post positivist research paradigms are basis for quantitative methodology, qualitative methodology is based on paradigms like critical theory and constructivism. Let us discuss on this more on these paradigms and explore why it is relevant to scientific inquiry.

According to Guba and Lincoln[1], positivism believes in simple reality that is assumed to be governed by natural laws. Additionally, knowledge is not contextual and controlled by cause and effect laws. Here the primary purpose of the researcher is to discover the 'truth'. In postpositivism, reality is regarded as imperfect due to the imperfect human intelligence and the complex nature of phenomena[1]. The goals of positivist and post-positivist paradigm research were control and prediction[1].On the other hand critical theory and constructivism are based on the assumption of the existence of multiple realities. In critical theory, reality is shaped by social, political, cultural, economic, ethnic, and gender values[1]. The goal of critical theory was emancipation. Finally, in constructivism, reality is intangible and it is shaped by experiences of the world and furthermore, it is dependent on the individual who experiences it and can be changed with new information[1].

Morse[2] identified three key characteristics that differentiate qualitative and quantitative research methods. Primarily, he states that the participants are providing the truth and meaning in qualitative research. In quantitative research,

meaning is the interpretation of the researcher. Secondly, qualitative methods use a holistic approach by assuming the importance of participant's values, beliefs, and experiences. Finally, qualitative methods adapt inductive and interactive measures for the study. Quantitative data analysis heavily depends on the quantitative aspects like statistical calculations to condense the data into interpretable results. By contrast, qualitative data analysis is time consuming and in-depth analysis that focuses on meaning and themes.

Trustworthiness of research

How can researchers produce credible research? When it comes to social science research, positivist and post positivist paradigm focuses on validity and reliability to uphold highest levels of accuracy. On the other hand, qualitative research focuses on rigor to ensure the trustworthiness of the research. The researchers started asking this question of criteria to evaluate the trustworthiness of a qualitative research began in the 1980's[3]. In 1985, Lincoln and Guba[4] proposed few criteria to evaluate the rigor of a qualitative research and this was further revised by Lincoln in 1995[5]. In these criteria, to strengthen the 'credibility' of the research, researchers should focus on prolonged engagement, persistent observation, triangulation, peer debriefing, negative case analysis, and member-checking[5].

Prolonged engagement requires the researcher spend sufficient time in a research setting, developing relationship, and co-constructing meanings with the participants of the research[3]. Persistent observation is something that gets along very well with prolonged engagement. According to Lincoln and Guba[4], for persistent observation the researcher should "identify those characteristics and elements in the situation

that are most relevant to the problem or issue being pursued and focusing on them in detail." (p.304). When it comes to triangulation, the primary purpose is to deepen understanding by collecting data from various sources on the same topic to create a stronger account of the research[3]. Further, triangulation may involve multiple methods, analysts, or theories[3].

In peer debriefing, the researchers discuss their work with disinterested peers and requests their engagement to question the researcher's work in a consistent and systematic fashion. The purpose of this task is to make explicit aspects of the research that might remain implicit within the researcher's mind[4]. It is relevant to note that to have supportive peers who give constructive feedback than oppositional peers who play the devil's advocate[6]. Negative case analysis is done to "refine a hypothesis until it accounts for all known cases without exception." (p. 309)[4]. Here the researcher challenges the emerging patterns or analysis in the work.

Member-checking uses various methods ensure the trustworthiness of the research. According to Lincoln and Guba[4], "The member check, whereby data, analytic categories, interpretations, and conclusions are tested with members of those stake holding groups from whom the data were originally collected, is the most crucial technique for establishing credibility" (p. 314). Here the researchers can use personal or group discussions with participants to check the representation in the data and analysis[3]. To strengthen transferability, Lincoln and Guba[4], suggested the use of thick description that requires providing deeply detailed account of one's research to check the potential for application to other times, places, people, and contexts. Finally, audit trail call for recording all the steps taken in the research process, from beginning to end, and includes decision made during the entire process of the research.

In the year 2007, Creswell[7] identified eight key strategies for rigor and suggested that qualitative studies should at least use two of them. These strategies are developed from Lincoln's[5] criteria and the key strategies are prolonged engagement and persistent observation, triangulation, peer review or debriefing, negative case analysis, reflexivity (tries to clarify researcher bias), member-checking, thick description, and external audits (research should get audited by external researcher).

Methodology

This study used a retrospective descriptive method to review the articles selected for the study. Using a random sampling technique, articles published in scientific journals from the period of 2005 to 20015 were selected. The search was restricted to articles, which explores trustworthiness of a qualitative research, specifically in the field of practice professions in social sciences. The initial pool of 206 were

generated in the search those used the terms like "qualitative, rigor, trustworthiness" in their abstract or key words. These articles were then numbered and individually checked for its contents. In-depth analyses of each of the article showed that majority of them were either qualitative research studies or articles related to qualitative research. Only five articles met the requirements specified in this study and selected for review. Among the selected articles, one was from occupational therapy, two articles from nursing, and finally, two articles from social work[3,8-11].

Analysis/ results

The analysis of these articles showed that most agreed upon criteria for measuring the rigor of a qualitative research are peer debriefing, member checking, audit trail. All the five articles (100%) agreed only these three criteria. Regarding other criteria, thick description was suggested by 80% of the articles, triangulation by 80%, and reflexivity by 80%. Analyst triangulation was suggested by 60% of the articles and along with that, persistent observation was agreed by 60% as well as prolonged engagement was suggested by 60%.

Among the selected articles, two articles (40%) discussed about sampling rationale, triangulation of theory (use of multiple theories or frameworks), theoretical saturation (author will indicate that analysis continued until theoretical saturation is achieved), negative or deviant case analysis, and external audit. Only a single article (10%) discussed about criteria on ontology/epistemology specified, problems/limitations specified (problems or limitations of the study), analysis detailed (author will provide a clear description of how the data analysis was conducted), theory/frame work specified (specifies whether study clearly informed by theory/ framework), and human subjects considered (protection of subjects/informed consent/ confidentiality).

The review found that one research article is providing different criteria for grounded theory, phenomenology, and qualitative descriptive approach (generic approach without any alignment to theoretical or philosophical position). This article states that grounded theory should use member-checking, triangulation (author suggests that both are not mandatory), and memoing, and theoretical sampling. This article again suggests that a phenomenological approach should use reflexivity and member checking for strengthening the rigor of the study. Finally, the article suggests that qualitative descriptive approach should use member-checking, triangulation of data, peer debriefing, and audit trail for checking the rigor of a qualitative research.

Detailed list of criteria used by all the five articles is illustrated in Table 1.

Table-1
Criteria for rigor addressed by each article

	Article 1 Reference No.8	Article 2 Reference No.9	Article 3 Reference No.3	Article 4 Reference No.10	Article 5 Reference No.11
1	-	-	Sampling rationale provided	Validating data	
2	-	-	Analyst triangulation	Validating results	Analyst triangulation
3	-	-	Problems/limitations specified	-	-
4	-	-	Analysis detailed	-	-
5	-	-	Theory or framework specified	-	-
6	-	-	Human subjects considerations addressed	-	-
7	Triangulation (Grounded theory/ qualitative descriptive approach)	Data triangulation	Data triangulation	-	Data triangulation
8	Peer debriefing (qualitative descriptive approach)	Peer debriefing	Peer debriefing/review	Expert review	Peer debriefing
9	Member checking (Grounded theory/ phenomenology/qualitative descriptive approach)	Member checking	Member-checking'	Member checking	Member checking
10	-	-	Theory triangulation'	-	Theory triangulation
11	-	Persistent observation	Persistent observation	-	Persistent observation
12	-	Thick descriptions	Thick description	Thorough description	Thick description
13	Bracketing (phenomenology)	Reflexivity	Reflexivity or use of self	Neutrality	-
14		Prolonged engagement	Prolonged engagement	-	Prolonged engagement
15	Memoing/ Audit trail (Grounded theory)	Audit trail	Audit trail	Auditability	Audit trail
16	-	-	Theoretical saturation achieved	-	Theoretical saturation
17	-	-	Negative/deviant case analysis'	-	Negative/deviant case analysis
18	-	-	External audit	-	External audit
19	-	-	Ontology epistemology specified	-	-
20	Theoretical sampling (Grounded theory)	-	-	-	-

Conclusion

This study identified various criteria proposed by published articles in scientific journals to measure the rigor of a qualitative inquiry. By conducting the review of these articles, it was very clear that there is no consensus on which criteria should be used to identify the trustworthiness of a qualitative research. It was very clear when only three criteria were widely accepted by all the articles in this review. However, there has been tremendous effort from the qualitative researchers to develop a strategy to ensure the rigor of a qualitative research. Nevertheless, there is no real agreement on which criteria should be selected or given priority. Moreover, it is also an agreed notion that more the criteria better the research is not accepted by qualitative

researchers either. However, due to the local character of qualitative research, the application of universally agreed criteria will negatively influence the prospects of the qualitative research[3]. In this context, it would be better to say that the rigor of a qualitative research rests upon the researcher. The researcher should make sure the research has met the quality standards proposed by various quality standards and takes cares the ethical obligation for a trustworthy research. Finally, I believe, it is the discretion of the researcher to choose the criteria for ensuring the rigor of a qualitative research by providing detailed information with transparency, and accountability.

References

1. Guba E.G. and Lincoln Y.S. Competing paradigms in qualitative research. In N. K. Denzin and Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105-117). Thousand Oaks, CA: Sage, **(1994)**

2. Morse J.M., Qualitative nursing research: A contemporary dialogue, Newbury Park, CA: Sage, **(1991)**

3. Barusch A., George M. and Gringeri C., Rigor in qualitative social work research: a review of strategies used in published articles, *Social Work Research,* **35(1)**, 11–19 **(2011)**

4. Lincoln Y.S. and Guba E.G., Naturalistic inquiry. Beverly Hills, CA: Sage, **(1985)**

5. Lincoln Y.S., Emerging criteria for quality in qualitative and interpretive research, *Qualitative Inquiry,* **12**, 275-289 **(1995)**

6. Ely, Margot, AnzuI, Margaret, Friedman, Teri, Garner, Diane, and Steinmetz, Ann McCormack, Doing qualitative research: Circles within circles, London: Fahner Press, **(1991)**

7. Creswell J.W., Qualitative inquiry and research design: Choosing among five traditions, Thousand Oaks, CA: Sage Publications, **(2007)**

8. Stanley M. and Nayar S., Methodological rigour. Ensuring quality in occupational therapy qualitative research, New Zealand Journal of Occupational Therapy, **67(1)**, 6 -12 **(2014)**

9. Houghton C., Casey D., Shaw D. and Murphy K., Rigour in qualitative case-study research, *Nurse Researcher*, **20 (4)**, 12-17 **(2013)**

10. Prion, S., and Adamson, Katie A. Making Sense of Methods and Measurement: Rigor in Qualitative Research, *Clinical Simulation in Nursing,* **10(2)**, e107 - e108 **(2014)**

11. Gringeri C., Barusch A.S. and Cambron C., Examining foundations of qualitative research: a review of social work dissertations, 2008-2010, *Journal of Social Work Education,* **49(4)**, 760-773 **(2013)**