Inductive and Deductive: Ambiguous Labels in Qualitative Content Analysis

Mohammad Reza Armat  
*Nursing instructor, PhD candidate in Nursing, Department of Medical-Surgical Nursing, School of Nursing and Midwifery, North Khorasan University of Medical Sciences, Bojnurd, Iran*

Abdolghader Assarroudi  
*PhD in Nursing, Department of Medical-Surgical Nursing, School of Nursing and Midwifery, Sabzevar University of Medical Sciences, Sabzevar, Iran, assarroudia@medsab.ac.ir*

Mostafa Rad  
*PhD, School of Nursing and Midwifery, Sabzevar University of Medical Sciences, Sabzevar, Iran*

Hassan Sharifi  
*PhD candidate, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran*

Abbas Heydari  
*PhD, Evidence-Based Caring Research Center, Professor, Department of Medical-Surgical Nursing, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran*

Follow this and additional works at: [https://nsuworks.nova.edu/tqr](https://nsuworks.nova.edu/tqr)

Part of the Other Medicine and Health Sciences Commons, Other Social and Behavioral Sciences Commons, Quantitative, Qualitative, Comparative, and Historical Methodologies Commons, Social Statistics Commons, and the Social Work Commons

**Recommended APA Citation**


This How To Article is brought to you for free and open access by the The Qualitative Report at NSUWorks. It has been accepted for inclusion in The Qualitative Report by an authorized administrator of NSUWorks. For more information, please contact nsuworks@nova.edu.
Inductive and Deductive: Ambiguous Labels in Qualitative Content Analysis

Abstract
The propounded dualism in Content Analysis as quantitative and qualitative approaches is widely supported and justified in nursing literature. Nevertheless, another sort of dualism is proposed for Qualitative Content Analysis, suggesting the adoption of "inductive" and/or "deductive" approaches in the process of qualitative data analysis. These approaches have been referred and labelled as "inductive" or "conventional"; and "deductive" or "directed" content analysis in the literature. Authors argue that these labels could be fallacious, and may lead to ambiguity; as in effect, both approaches are employed with different dominancy during the process of any Qualitative Content Analysis. Thus, authors suggest more expressive, comprehensive, yet simple labels for this method of qualitative data analysis.

Keywords
Inductive, Deductive, Qualitative Research, Content Analysis

Creative Commons License
This work is licensed under a Creative Commons Attribution-Noncommercial-Share Alike 4.0 International License.

This how to article is available in The Qualitative Report: https://nsuworks.nova.edu/tqr/vol23/iss1/16
Inductive and Deductive: Ambiguous Labels in Qualitative Content Analysis

Mohammed Reza Armat  
North Khorasan University of Medical Sciences, Bojnurd, Iran 

Abdolghader Assarroudi and Mostafa Rad  
Sabzevar University of Medical Sciences, Sabzevar, Iran 

Hassan Sharifi and Abbas Heydari  
Mashhad University of Medical Sciences, Mashhad, Iran 

The propounded dualism in Content Analysis as quantitative and qualitative approaches is widely supported and justified in nursing literature. Nevertheless, another sort of dualism is proposed for Qualitative Content Analysis, suggesting the adoption of "inductive" and/or "deductive" approaches in the process of qualitative data analysis. These approaches have been referred and labelled as "inductive" or "conventional"; and "deductive" or "directed" content analysis in the literature. Authors argue that these labels could be fallacious, and may lead to ambiguity; as in effect, both approaches are employed with different dominancy during the process of any Qualitative Content Analysis. Thus, authors suggest more expressive, comprehensive, yet simple labels for this method of qualitative data analysis. Keywords: Inductive, Deductive, Qualitative Research, Content Analysis 

The dualism propounded in Qualitative Content Analysis (QCA), suggests the adoption of “inductive” or “deductive” approaches or modes of reasoning in the process of qualitative data analysis (Elo & Kyngäs, 2008; Mayring, 2014). The label “conventional” is given to QCA when the mode of reasoning is inductive; whereas, the labels “directed,” or “deductive” are assigned when deductive mode is adopted during the data analysis (Hsieh & Shannon, 2005; Mayring, 2000, 2014). 

There is a subtle point here that could be misleading. In effect, both modes of inductive and deductive reasoning are simultaneously used in each QCA. Hence, assigning such static labels to QCA could be illogical, inexpressive, and ambiguous. Authors argue that the labels “inductive” or “conventional” are not literally equivalent; additionally, they do not reflect the both modes of inductive and deductive reasoning, inevitably employed in QCA. The same is true for the labels “deductive” or “directed,” which solely denote deductive mode of reasoning. In other words, labelling the QCA as "inductive" or "deductive" would imply that the analyst exclusively chooses one, and only one of the “inductive” or “deductive” reasoning modes during the data analysis.

The inductive (conventional) QCA is used when there is lack of, or limited previous theories or research findings (Elo & Kyngäs, 2008; Hsieh & Shannon, 2005; Mayring, 2000, 2014). In this approach, the analyst's mind is not entirely blank at the beginning of the study; instead, he has the research question(s), study aim(s), and/or some pertinent assumptions, practically directing his analysis (Harding, 2013; Schreier, 2014). This is an instance of deduction. Moreover, as the analysis progresses, new categories will emerge inductively, making tentative hypotheses (Thorne, 2000; Bernard, 2011). The analyst, then, would test or examine these hypotheses during the rest of the analysis process (Neuendorf, 2002). Such
testing, once again, is an instance of deduction. Hence, in what is referred as inductive QCA, the analyst inevitably employs both modes of reasoning, in a way that he/she begins with inductive mode, and as the new categories emerge, he/she uses both approaches, keeping the "induction" dominant.

On the other hand, the analyst uses the deductive (directed/framework) QCA when some views, previous research findings, theories, or conceptual frameworks regarding the phenomenon of interest exist (Elo & Kyngäs, 2008; Hsieh & Shannon, 2005; Mayring, 2014). The researcher begins the analysis, using the pre-existing categories (analysis matrix) imposed by the theory or previous research findings, which is clearly the instance of deduction. However, when some coded segments of the text do not fit the categorization matrix, it is possible for new categories to be "inductively" created or emerged (Elo & Kyngäs, 2008); which is the instance of induction; though it is less dominant than deduction.

As it can be seen, the analyst accomplishes the qualitative data analysis, using both the inductive and deductive approaches, concurrently, but with different dominancy. In other words, the researcher’s mind constantly switches between the induction and deduction modes of reasoning during a QCA (Harding, 2013). Thus, authors believe that labelling QCA with the labels "inductive" and/or "deductive" could be fallacious and misleading.

Among the introduced labels of QCA in the literature, "directed" seems to be more justified, because it denotes that the analysis is guided by existing theory or knowledge. Whereas, the label "conventional" is not expressive enough and does not make scientific sense. Having a broad scope of meaning, the latter does not literally convey a definite methodological approach, and could even call to mind the "quantitative" content analysis, because the content analysis traditionally has begun with quantitative approach (Krippendorff, 2004).

In sum, use of labels such as "inductive," "conventional," and "deductive," may cause fallacy in audiences’ mind, particularly novice researchers. Application of clarified and precise labels is strongly recommended in the scientific literature. Moreover, labels should not be static, and must be dynamically reconsidered based on the new knowledge, experiences, and perceptions (Meleis, 2011). Therefore, it is imperative to replace current labels of QCA with new comprehensive and expressive, yet simple labels, such as "inductive-dominant QCA" and "deductive-dominant QCA."

References


**Author Note**

Mohammad Reza Armat is a Nursing instructor and PhD candidate in Nursing in the Department of Nursing, School of Nursing and Midwifery, North Khorasan University of Medical Sciences, Bojnurd, Iran.

Abdolghader Assarroudi, PhD, is with the School of Nursing and Midwifery, Sabzevar University of Medical Sciences, Sabzevar, Iran. Correspondence regarding this article can be addressed directly to: assarroudia@medsab.ac.ir.

Mostafa Rad PhD, is with the School of Nursing and Midwifery, Sabzevar University of Medical Sciences, Sabzevar, Iran.

Hassan Sharifi, is a PhD candidate in Nursing with the School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran.

Abbas Heydari, PhD, is a Professor with the Evidence-Based Caring Research Center, Department of Medical-Surgical Nursing, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran.

Copyright 2018: Mohammad Reza Armat, Abdolghader Assarroudi, Mostafa Rad, Hassan Sharifi, Abbas Heydari, and Nova Southeastern University.

**Article Citation**