DOCUMENT RESUME

ED 470 658 TM 034 552

AUTHOR McCaslin, Mark L.; Scott, Karen Wilson

TITLE Method for Studying a Human Ecology: An Adaptation of the Grounded Theory Tradition.

PUB DATE 2002-01-00
NOTE 15p.
PUB TYPE Reports - Descriptive (141)
EDRS PRICE EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS *Constructivism (Learning); Ecology; *Qualitative Research
IDENTIFIERS *Grounded Theory; *Human Ecology

ABSTRACT

Constructivist grounded theory is focused on discovery through understanding data in a human ecology. The procedures outlined in this paper are designed to guide the beginning theorist through the process of creating a theory grounded in data that is a product of the human ecology under study. These new procedures extend grounded theory, providing bridges in moving from study phenomenon to design and from analysis to interpretation. Procedures for analyzing the data must be clearly understood before beginning grounded theory methodology. Strategies must be outlined, approaches to the ecology discussed, and awareness of the ecology attained. Following these procedures can lead to a rewarding qualitative research experience and produce new knowledge for understanding the human ecology. (Author)

Method for Studying a Human Ecology: An Adaptation of the Grounded Theory Tradition

Mark L. McCaslin, PhD and Karen Wilson Scott, PhD
University of Idaho, Idaho Falls
1776 Science Center Drive
Idaho Falls , ID 83402

(208) 282-7719 and (208) 282-7967
markm@uidaho.edu and Karen@if.uidaho.edu

Abstract

Constructivist grounded theory is focused on discovery through understanding data in a human ecology. The procedures outlined in this paper are designed to guide the beginning theorist through the process of creating a theory grounded in data that is a product of the human ecology under study. These new procedures extend grounded theory, providing bridges in moving from study phenomenon to design and from analysis to interpretation. Procedures for analyzing the data must be clearly understood before beginning grounded theory methodology. Strategies must be outlined, approaches to the ecology discussed, and awareness of the ecology attained. Following these procedures can lead to a rewarding qualitative research experience and produce new knowledge for understanding the human ecology.

Method for Studying a Human Ecology:

An Adaptation of the Grounded Theory Tradition

The study of a human ecology requires special awareness and techniques to understand the complexities of the interactions and relationships. Human ecology as a science seeks to understand the laws governing the interrelationships of individuals with each other and their larger community. It requires the researcher to develop an appreciation of this interrelationship of individuals – whether between researcher and informants; among informants themselves; or among informants and their fellow citizens within the larger community. These relationships and interactions are critical in determining the parameters of a study involving a human ecology.

If the qualitative traditions are concerned with observing and experiencing the human ecology (Creswell, 1997), then predictions and applications become secondary during early stages of any qualitative inquiry. On the other hand, explanations and interpretations of these data gathered within the ecology become primary. Yet most grounded theorists spend an inordinate amount of time drawing conclusions and seeking applicability and predictability, leaving the inductive mode to pursue deductive. In doing so we value the product more than the ecology from which it was derived. The temptation to move into the deductive mind-set is prevalent in the grounded theory design because as a research model it has both quantitative and qualitative potentials (Glaser, 1992). Reviewing the strategies outlined by Glaser and Strauss (1967) and Strauss and Corbin (1990), and Glaser (1992) reveals the beginnings of a mixed-model research design. These designs provide us with the methods to code data, draw limited conclusions, and even to suggest applications. What we lack are clear mechanisms for preparing ourselves for data collection, developing theoretical and ecological sensitivity toward the phenomenon under study, gathering the data, and moving from analysis to interpretation.

Grounded theory is about discovery. Discovery in the human ecology can only emerge when the researcher understands and appreciates the critical relatedness and meaning of the data collected within the ecology from which it is derived. Constructivist grounded theory assumes that people create and maintain meaning in their realities and act accordingly (Charmaz, 2000). In the Constructivist view, the grounded theorist is very much a part of the process, from the selection of topic and questions, to determination of concepts and categories, and discovery of emergent theory. Recognizing and striving to convey the relationships and interactions of the informants within their ecologies is incumbent upon a responsible researcher. Data collected with poor connection to reality will yield theories of little or no relevance to that ecology.

A study conducted by one of us in leadership development within rural communities (McCaslin, 1993) began with shallow understanding of the topic ecology. I (McCaslin) entered the field with the accepted paradigm that without establishing leadership development first, economic and community development would be limited or nonexistent. Efforts to discover a theory that would explain the nature of leadership within rural communities proved both wearisome and meandering as the data refused to fit within the paradigm documented in the literature. After months of analysis, I realized that my short-sighted approach and view of the ecology obscured the story the data were telling me, that community is at the center of the development interest and leadership is but one of the many parts. My attempt to force the data into the incomplete paradigm was the result of not first understanding the ecology from which they were collected.

Following the grounded theory research design outlined by Strauss and Corbin (1990, 1998) the researcher can arrive, as I did, at the point where a decision must be made to either move forward and produce an incomplete and often shallow theory that obscures the ecology

from which it was taken, or step back and reevaluate the procedures. The difficulty with the current methodology is that it does not address issues such as how and where to begin, protocol development, interpretations, role of the researcher, and movement between the various stages of coding. This paper seeks to eliminate much of the guess-work and frustration in grounded theory research by providing bridging procedures to enable the researcher to produce theories grounded in both the data and the ecology from which the data were obtained.

Beginning Qualitative Inquiry

Where to begin is the most critical aspect in qualitative inquiry. Beginning from the phenomena of interest - to the generation of research questions - to the research protocol - to coding (of all types) - to the generation of theory (strengthened by a smattering of literature support) is a shallow and incomplete research procedure that risks misunderstanding the real issue. We can obtain a clearer perspective by simply stepping back instead of forward in the early stages of our research. After selecting our phenomenon of interest the essential task at hand is to develop an appreciation for the phenomenon within its ecology.

The current model of grounded theory design follows the flow:

Phenomenon of Interest > Designing > Collecting > Analyzing > Theorizing

This design is a deductive - inductive - deductive model in that from the phenomenon of interest it deduces a protocol, becomes inductive briefly during open and axial coding, only to fall back to a deductive framework in selective coding and theory generation. We propose to broaden and clarify the current model and its language to the following:

Phenomenon of Interest > Theoretical Conditioning > Questioning the Process > Designing > Collecting > Analyzing > Reflecting > Interpreting > Theorizing

This design is an inductive > deductive > inductive >deductive design that is dependent upon the ecology from which the data are derived in the process of building theories that explain the relationships and interactions within that ecology.

These modifications address the procedural difficulties inherent in the current theory of grounded theory. By adding methods to ensure theoretical conditioning, adding tools to aid the researcher in moving between coding levels, and altering the language to reflect reality, we can increase the power, fit, and relevance of our theories. In turn, we increase the likelihood that our theories will reflect the ecology positively and productively by strengthening our understanding of the relationships that govern the study ecology.

Theoretical Conditioning

Theoretical conditioning allows the researcher to answer three critical questions not addressed in traditional grounded theory methodology: (a) What is the real issue?; (b) What are the facts as we understand them?; and (c) What is the role of the researcher?. Whereas in the current methods the researcher moves to protocol development (a deductive process), our model takes the researcher inductively into the ecology under study to develop sensitivity to successfully code the data once collection begins. In our model theoretical conditioning is a three-stage process we call general and reflective sorting and selective questioning.

General Sorting

Generating sufficient sensitivity to the human ecology requires immersion within that ecology. It is a step back to view holistically the environment under study. During this "awareness generating" period the researcher inventories "what is." The researcher is seeking an understanding of the area to be studied, directions the early reviews could take, and other clues to increase ecological sensitivity. No judgements, predictions, or conclusion are called for at this

stage; only openness to the environment. Conclusions become important only towards the end in grounded theory research. Our frame of reference must be that of an explorer who has only a limited discovery time in the field. Conclusion can wait for the solitude of our laboratories.

Without this general reference and familiarity with the study ecology we run the risk of missing key relationships and proceeding along shallow or irrelevant paths. In the study of leadership (McCaslin, 1993), this point was not realized until data coding was well under way. By gaining theoretical sensitivity, we may reveal the issues and facts about the ecology that will serve as backstops as the research proceeds.

Reflective Sorting

Reflective sorting begins the early process of framing the study by assimilating the ecology into our consciousness. It is a process similar to open coding, only here we are examining concepts, phenomena, events, people, and conditions as they exist within the ecology, rather than removing or fracturing these data. From this process we can develop a rich description of the ecology, its actors, the setting, and events that will add depth to the meaning of our theory and direction for coding sessions. In the leadership study (McCaslin, 1993), one of the most difficult tasks was knowing how to limit the data flowing from the ecology to the phenomenon of interest without discounting or distorting the environment. Reflective sorting serves as our control, so that we know whether our findings or directions are in harmony with reality and allows us to begin a process of questioning that will ultimately lead us to our grand tour question.

Selective Questioning

Selective questioning, the first deductive phase in our model, is a systematic process of defining the area of interest. Examining facts and questions obtained during general and

reflective sorting help to frame and direct the study. This process generates the purpose statement and forms the grand tour question, the study question in its most general form (Creswell, 1994).

Formalizing the purpose of the research and the creation of a grand tour question is an arduous task in traditional approaches. In the study of leadership (McCaslin, 1993), the initial purpose was to describe leadership as it relates to community development. I (McCaslin) discovered in the midst of the research that the purpose statement was absurd, and that the informants interpreted the general inquiry of "what is leadership?" broadly with no meaningful boundary from which to generate a general theory. In a grounded theory study conducted by one of us investigating high self-efficacy and perseverance in adults committed to new challenging life pursuits after age 50, both the purpose and the grand tour question focused on perseverance, a concept linked to efficacy in the literature, but rejected by the informants (Scott, 2002). Both studies required stepping back to discern the human ecology. In the leadership study, recognizing that the question more reflective of the ecology was, "What is the purpose of leadership within this community?" allowed the data to tell their story. In the self-efficacy study, recognizing that while perseverance was viewed as a negative "push" disconnecting and obscuring the data, commitment was viewed as a compelling "pull" of rightness integrating the data.

Selective questioning following theoretical conditioning is a powerful procedure that facilitates the traditionally difficult task of designing meaningful purpose statements, and in the process reveals the grand tour question. In essence, during theoretical sensitivity, we begin in inductive mode, revealing the holistic nature of the ecology, and conclude with selective questioning in deductive mode by defining the aspects we will be investigating as they relate to the phenomenon of interest. Next, we will proceed to data collection and open coding analysis.

Data Collection and Analysis Procedures

Theoretical conditioning is paramount to the creation and development of data collecting procedures. By designing and testing a pilot protocol from the understanding of the ecology, the researcher is better able to generate a purposeful protocol. The formal protocol is developed from the pilot protocol, after a brief coding session involving open and reflective coding to determine whether the data generated have fit or relevance to the human ecology under study.

Open Coding

Open coding is an inductive analytical procedure that performs two basic tasks: it makes comparisons and it asks questions. For this reason grounded theory is often referred to as the constant comparative method of analysis (Glaser & Strauss, 1967). Open coding is the systematic process of sorting through the data by categorizing events and concepts by their properties and dimensional range. These categories are, during reflective (axial) coding, related to each other to see how they interplay. Generally, in grounded theory, open and reflective (axial) coding occur within the same coding session (Strauss & Corbin, 1990).

The proliferation of categories generated during open coding creates a puzzle not easily deciphered. Yet the point is to uncover as many relevant categories as possible and then loosely link them by their dimensions. In the studies of leadership (McCaslin, 1993) and self-efficacy (Scott, 2002), we produced thousands of possible categories and hundreds of possible relationships. The next step in our grounded theory model is reflective coding.

Reflective Coding

In grounded theory procedures, reflective (traditionally called axial), coding can be seen as the answer to questions generated during open coding. As the process is simply reflecting on and about the categories that are emerging, we suggest the term "reflective" states its purpose.

Strauss and Corbin, (1998) recognize open and reflective coding as distinct analytic procedures and concur that in coding the data a researcher will alternate between the two modes.

Reflective coding is the process of reassembling the data in meaningful ways by connecting categories with dimensions within context. Reflective coding is concerned with developing the data into schematics that explain the interactions in terms of properties emerging from causal conditions, processes explaining conditions, process dimensions, and the relevant context. Emergence of key properties and strategies for understanding the consequences or relevance of these properties signals the approach of theoretical saturation. Two tools used in sequence, a conditional relationship guide and a reflective coding matrix, aid in reconnecting the data that surfaced from the open coding procedures.

Conditional Relationship Guide

Conditional Relationship Guide is a table that contextualizes the central phenomenon, and relates structure with process by answering "What, When, Where, Why, How, and with what Consequence" for each key category. For example: What is *commitment* to a pursuit? (informants' definition); When do the informants experience *commitment* to a pursuit?; Where?; Why?; and What consequences does *commitment* have for informants involved in challenging pursuits? (Scott, 2002). Asking and answering these investigative questions identifies the relationships each category has with the other categories and the study ecology, and it includes a fourth dimension of time. Strauss and Corbin (1998) refer to that dynamic element as *Process*, which allows us to understand the evolution of the informants. Constructed from the guide, which defines the relationships and interactions, is a reflective coding matrix.

Reflective Coding Matrix

The reflective coding matrix is a table created from the consequences identified in the conditional relationship guide. A primary objective of constructing a reflective coding matrix as a relational hierarchy is to develop the core category described in terms of its properties, processes, dimensions, context or ecology, and the modes with which its consequences are understood. The category most frequently identified as a consequence on the conditional relationship guide either is or is a direct indicator of the core category. The remaining categories become features on the reflective coding matrix that define and describe the core category as the properties, processes, dimensions, contexts, and modes for understanding the consequences. The reflective coding matrix interlaces the interactions among categories identified with the guide and serves as a bridge between the analysis of reflective coding and the interpretation of selective coding. The story line and the conditional matrix spring directly from the reflective coding matrix.

Selective Interpretation

According to Strauss and Corbin (1990, 1998) selective coding (interpretation) is the process of selecting the core category, systematically relating it to other categories, validating those relationships, and filling in categories that need further refinement and development. Interpreting the relationships grounded by the data is the final deductive process in our model. The data, via the conditional relationship guide and the reflective coding matrix, coalesce in the story line/conditional matrix as a portrait of the ecology and an answer to the grand tour question.

These multidimensional tools describe and explain relationships and interactions. From this process emerges a grounded theory. The final product of this process is the construction of the conditional matrix; story line constructed as a model of the ecology that emerged from the

data. This process grounds the data and provides structure for theory development. Synthesis of the data through selective interpretation is the final analytic process in grounded theory research.

Theory Generation

Theory generation is a three-step process that examines the consequences of the emerging theory, the meaning of the emergent theory, and the formal presentation of the theory. First, the researcher verifies the process by examining the consequences of the emerging theory for relevance and fit within the human ecology, as well as credibility, transferability, and dependability. By seeking the consequences of the theory in the ecology under study, the researcher begins to deduce a testable hypothesis from the emergent theory. We verify the story line with the informants for insights and shortcomings. In the process, we look again to the relationships and interactions described by the conditional relationship guide and reflective coding matrix in order to assign meaning to the core category and its properties, processes, dimensions, and context. We then begin to explain and define the emergent theory.

The second step in theory generation is to define the meaning of the emergent theory as it relates to the theoretical literature. Further reviews of the literature at this point will likely strengthen the relevance and acceptability of the overall theory and locate this new knowledge within a context others can follow. The researcher who has developed an insightful appreciation for the human ecology from which the theory has emerged recognizes the impact and the application of the emergent theory.

The formal presentation of the theory is a concise statement or abstract of the theory generated from data taken from the human ecology, including potential impacts on the ecology. Strauss and Corbin (1998) suggest that the highest level of analysis and a product of theory generation is the conditional matrix. The conditional matrix emerges from selective interpretation

and theory generation procedures relating conditions, interactions, and consequences of the emergent theory to the area of interest within the ecology. It serves as a valuable aid when discussing the statement of the theory, the gap it fills in the body of knowledge, and the impact on the human ecology.

Conclusion

Procedures for analyzing the data must be clearly understood before beginning the study using grounded theory methodology. Strategies must be outlined, approaches to the ecology discussed, and awareness of the ecology attained. Without these elements, the grounded theorist may unwittingly focus on an object or event but fail to see the panorama that locates it and gives it dimension and meaning. In that scenario, the options are to retreat to a known point or forge ahead with a theory unconnected to context. The latter option is the reason for so many theories of little or no relevance to their ecologies. The procedures we have outlined are designed to guide the beginning theorist through the process of creating a theory, grounded in data, that is a product of the ecology under study. Following these procedures can lead to a rewarding research experience and produce new knowledge for understanding the human ecology. Planning and preparation are key to a successful effort. Meaningful theory contributes to the knowledge of the ecology by keeping the study phenomenon in focus while framing it in a holistic panorama.

References

Charmaz, K. (2000). Grounded theory: Objectivist and constructivist methods. In N. K. Denzin & Y. S. Lincoln (Eds). *Handbook of qualitative research* (2nd ed.) (pp. 509-536). Thousand Oaks, CA: Sage.

Creswell, J.W. (1994). *Research design: Qualitative and quantitative approaches*. Thousands Oaks, CA: Sage.

Creswell, J.W. (1997). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, Sage.

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

Glaser, B.G. (1992). *Basics of grounded theory analysis*. Mill Valley, Sociology Press.

McCaslin, M. L. (1993). *Leadership in rural communities: A grounded theory study*. Unpublished doctoral dissertation, University of Nebraska, Lincoln.

Scott, K. W. (2002). *High self-efficacy and perseverance in adults committed to new challenging life pursuits after age 50: A grounded theory study*. Unpublished doctoral dissertation, University of Idaho, Idaho Falls.

Strauss, A., & Corbin J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. London: Sage.

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

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

ERIC Educational Resources Information Center

REPRODUCTION RELEASE

(Specific Document)

TM034552

I. DOCUMENT IDENTIFICATION:

Title: Method for Studying a Human Ecology: an Adaptation of a Grounded Theory Tradition

Author(s): Mark L. McCaslin & Karen Wilson Scott

Corporate Source: University of Idaho, Idaho Falls

Publication Date: unpublished

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, *Resources in Education* (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic media, and sold through the ERIC Document Reproduction Service (EDRS). Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following three options and sign at the bottom of the page.

The sample sticker shown below will be affixed to all Level 1 documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

Level 1

[X]

Check here for Level 1 release, permitting reproduction and dissemination in microfiche or other ERIC archivel media (e.g., electronic) *and* paper copy.

The sample sticker shown below will be affixed to all Level 2A documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE, AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2A

Level 2A

[ ]

Check here for Level 2A releese, permitting reproduction and dissemination in microfiche and in electronic media for ERIC archival collection subscribers only

The sample sticker shown below will be affixed to all Level 2B documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2B

Level 2B

[ ]

Check here for Level 2B release, permitting reproduction and dissemination in microfiche only

Documents will be processed as indicated provided reproduction quality permits.
If permission to reproduce is granted, but no box is checked, documents will be processed at Level 1.

I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche or electronic media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries.

Sign here, please

Signature: Karen Wilson Scott

Printed Name/Position/Title: Mark L. McCaslin, PhD
Karen Wilson Scott, PhD

Organization/Address: University of Idaho, Idaho Falls Center
1776 Science Center Drive
Idaho Falls, ID 83402

Telephone: 208-282-7719/7967

FAX: 208-282-7950

E-Mail Address: markm@uidaho.edu
karen@if.uidaho.edu

Date: 10-10-02

(Over)

III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, *or*, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

Publisher/Distributor:
Address:
Price:

IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant this reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

Name:
Address:

V. WHERE TO SEND THIS FORM:

Send this form to the following ERIC Clearinghouse:

ERIC CLEARINGHOUSE ON ASSESSMENT AND EVALUATION
UNIVERSITY OF MARYLAND
1129 SHRIVER LAB
COLLEGE PARK, MD 20742-5701
ATTN: ACQUISITIONS

However, if solicited by the ERIC Facility, or if making an unsolicited contribution to ERIC, return this form (and the document being contributed) to:

ERIC Processing and Reference Facility
4483-A Forbes Boulevard
Lanham, Maryland 20706

Telephone: 301-552-4200
Toll Free: 800-799-3742
FAX: 301-552-4700
e-mail: info@ericfac.piccard.csc.com
WWW: http://ericfacility.org