Understanding Grounded Theory

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LEARNING OBJECTIVES

1. Describe the purpose for conducting a grounded theory investigation.
2. Describe the process involved in grounded theory data collection and analysis.
3, Describe how substantive theory is developed from grounded theory research.

INDEX TERMS: Constant comparative analysis, inductive research, theory building

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INTRODUCTION

Qualitative research is defined as inquiry into meaning, and may be used to generate theories based on the coordination of findings and understandings.[1] To some, qualitative research may seem "unsystematic" or "exploratory;" however, this is exactly what is necessary to develop new theory.[2] Grounded theory is one qualitative research method that seeks to create theory from the data itself. Using an inductive technique, the researcher collects information and draws conclusions from what is observed. According to Shank (2006), complex settings are best understood by starting at "ground zero" and allowing the data to guide the theory development process.[1]

This article focuses on grounded theory research, which is based on a framework that emphasizes situations where the researcher starts with as few preconceptions as possible. If the researcher is already familiar with the setting under investigation, he must set aside what is already known and allow the situation to speak to him.[1] Many researchers find this difficult, and report that having the ability to conduct grounded theory research requires much time and effort to refine.[1]

The goal of a grounded theory qualitative study is to build substantive theory that is "grounded" in the data; this theory is typically localized, dealing with a particular real-world situation or complex setting.[3] Grounded theory was first launched in 1967 as a viable research paradigm in sociology and was later refined in such disciplines as health sciences and education.[2] Grounded theory researchers believe that building a theory is just as important and valid as testing a theory.[1]

I used a grounded theory technique for my dissertation to study how medical laboratory science clinical instructors viewed themselves as teachers. From my research I was able to begin conceptualizing a theory of clinical instructor identity based on the experiences of the participants in the study.

Purpose

A basic qualitative investigation is especially useful for uncovering the ways that individuals make sense of their lives and experiences.[3] Grounded theory research seeks not to simply understand, but to build a theory that explains the phenomenon of interest.[3] Theory is considered "grounded" because it is anchored in the words and experiences of the participants. The researcher begins with the individual stories of each participant, and then through the analytic process takes their stories apart and puts them back together again in such a way that tells the story of all the participants collectively.[3] Grounded theory research emphasizes discovery and is particularly suited to investigating problems for which little theory has been developed. Description and verification are secondary concerns in this particular research method.[4]

The success of a grounded theory investigation depends to some extent upon the sensitivity and analytical skills of the researcher. In grounded theory, the researcher can

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cultivate crucial insights not only during his research, but from his own personal experiences.[2] However, in doing so, the researcher must constantly check his own position in relation to understanding and conveying the stories of the participants.[3] Additionally, the researcher must learn to listen for what is voiced by participants as well as what is not voiced.[3]

Data Collection

Theoretical sampling, saturation, and constant comparative analysis are grounded theory techniques that determine which data to collect, when to stop gathering data, and how to handle the data.[4] Each of these techniques will be described below.

In most grounded theory studies data come from interviews and participants' observations; a wide variety of documentary materials, literature, and previous research are also potential sources of valuable information.[4] Data collection is guided by theoretical sampling in which the researcher jointly collects, codes, and analyzes data and decides what data to collect next in order to develop a theory as it emerges.[4] At some point, the researcher will likely find gaps and will need to go back to the field and collect additional data. Unlike quantitative research, decisions about data collection cannot be planned in advance, and there is often more than one technique for data collection that is considered appropriate. Different kinds of data give the researcher different views or vantage points from which to understand a situation or setting. These different views are called *slices* of data.[2] When the researcher begins to see similar incidents over and over again, he becomes confident that the research is *saturated*.[2] Saturation means that no additional new data are being found.

In my own study, data collection was accomplished through semi-structured interviews in which thirteen participants were asked a series of open-ended questions. The purpose of the questions was to gather their thoughts about how they viewed themselves as clinical instructors. Follow up questions were posed during the interviews as needed. The interviews were audiotaped with the permission of the participants and lasted approximately 30-45 minutes each. The audiotapes were transcribed by the researcher and a typist within one week of the interview and analysis began shortly thereafter.[5] As a matter of recordkeeping, the participants were also asked to sign and date an informed consent statement indicating that they had agreed to participate in the study, be audiotaped, and be contacted should any of the data need clarification. The participants interviewed in my study were each assigned a pseudonym for the purpose of maintaining anonymity.[5] A member check was also completed after all the interviews had been conducted in which the participants were sent a copy of their transcript along with a letter asking them to review the document for accuracy.[5]

Data Analysis

Data analysis in grounded theory is a process that requires astute questioning, a relentless search for answers, active observation, and accurate recall. "It is a process of piecing together data, of making the invisible obvious, of recognizing the significant from the insignificant, and of linking seemingly unrelated facts logically."[1] In particular, the researcher looks for patterns that cut across various aspects of the data. When these patterns organize different segments of the data we call them *themes*.[1] In true grounded theory research, themes are said to "emerge from the data."[1]

The basic analytical procedure in grounded theory research is the constant comparative analysis of data which consists of four stages. Stage one compares incidents and generates large, tentative categories using a process known as open coding. In this stage data is broken down, labeled, and fit into as many categories as are appropriate. The researcher also records in memo form any insights that occurred during the comparison of incidents.[4] Because the constant comparative method requires the researcher to keep track of one's ideas, it increases the likelihood that the resulting theory will be clear, and colleagues will accept its credibility.[2]

In the second stage of constant comparative analysis, the researcher attempts to establish properties within each category.[4] This is accomplished through axial coding which groups the initial open codes into descriptive or key elements. In my dissertation a total of seven key elements were identified that related to clinical instructor identity.

During stage three, similar categories are reduced to a smaller number of highly conceptual categories or themes, hypotheses are generated, and any new data are

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checked for fit into the overall framework. If a category is saturated, further incidents of that category need not be coded since doing so adds nothing to the theory.[4]

Finally, in stage four the actual writing of the theory takes place. At this point, the researcher is convinced that his analytic framework forms a substantive theory that is a reasonably accurate statement of the area being studied and is in a form that others going into the field can use.[4]

Data collected in my study were inductively analyzed using a constant comparative technique.[2,3] In this analysis, data were initially labeled using key words; this procedure is referred to as open coding. Open coding continued until all categories or conceptual elements were recognized. A peer review process was then conducted in which the coding was checked by dissertation committee members for appropriateness. The categories were eventually organized into three broad themes using descriptors from the study participants' own voices. Memos written immediately after each interview, which captured the essence of each conversation, were also examined and used in interpreting the data.[5] The three themes that emerged in my research were as follows: Nature vs. Nurture: We Have the Ability to Teach, Professional Identity: Doing Something Extra, and Thinking About Teaching Made Me a Better Teacher. Each theme was supported by two or three key elements which included: personal traits, teaching strategies, sense of self as a teacher, teaching adds variety, keeping current, learning the role, and training the next generation.

In the end a conceptual model was developed which provides a visual representation of the findings from the study. This model is shown in Figure 1. The four dimensions of teacher identity that were initially identified through a literature review are depicted by the inner circle. The themes and key elements which emerged as a result of the grounded theory research are identified in the boxes near the teacher identity dimension to which they correspond.

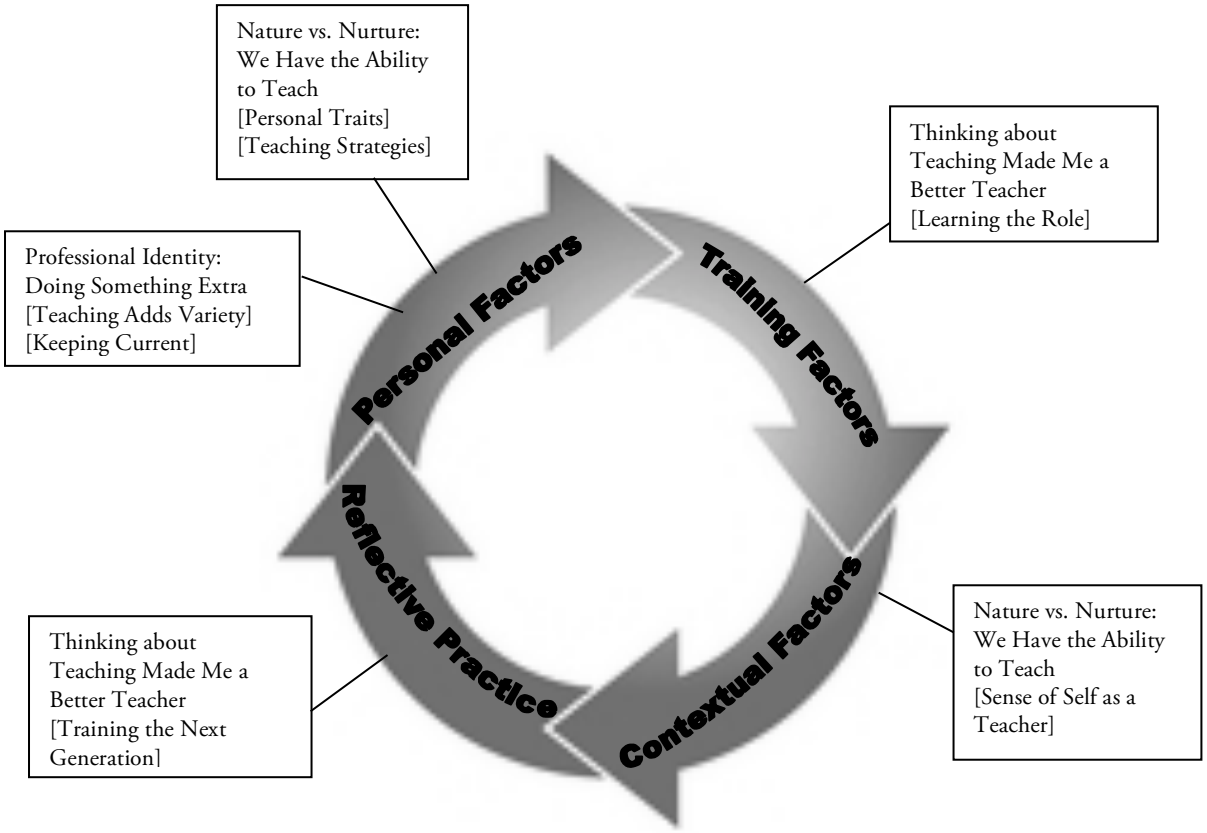

Figure 1. Integration of themes with teacher identity concept map

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Data Results

The practical application of grounded theory research may be assessed along four criteria: 1) fitness – the theory must closely relate to the area being investigated; 2) understanding – lay persons working in the area should be able to understand and use the theory; 3) generality – categories of the grounded theory must be abstract enough to make the theory a general guide to changing situations; and 4) control – the theory must offer enough robustness and clarity to make its application worthwhile.[3] In other words, "grounded theory must fit the data, provide a useful explanation, be relevant to actual problems, and capable of being modified by future inquiry."[3] The major purpose for doing grounded theory research in an applied field is to improve professional practice. Grounded theory, if it has been truly generated from a situation and is grounded in the data, will give the practitioner a conceptual tool with which to guide future work.[4]

The presentation of grounded theory will satisfy most readers if the theory can be applied to situations and guide thinking, understanding, and further research. Occasionally the reproducibility of a study may be questioned however. Theory that deals with a social or psychological phenomenon is probably not reproducible because conditions cannot be matched exactly to the original study. Yet given the same theoretical perspective of the original researcher and following the same general rules for data gathering and analysis, another investigator should be able to reproduce the same theoretical explanation about a given phenomenon.[3]

Limitations

There are certain limitations to any qualitative study, and grounded theory is no different. In this type of research the effects of sampling bias, such as self-selection or self-presentation, must be taken into consideration. Self-selection bias is a concern in any activity where participation is voluntary.[5] For instance, in my study practitioners who identified with the clinical instructor role may have been more likely to volunteer to be participants in the study, and individuals who did not view themselves as teachers may have passed up this opportunity.[5] Self-presentation bias occurs, on the other hand, when participants try to provide data that they believe is what the researcher wants to hear, or as was the case in my dissertation, would present themselves positively as teachers.

And finally, researcher bias should be avoided in any qualitative method. I was keenly aware of the fact that prior to conducting my interviews I had developed four dimensions of teacher identity based on a literature review, and these dimensions could certainly impact the interpretation of the data collected.[5]

CONCLUSION

Grounded theory is an established qualitative research method that may be used in order to gain an understanding of a particular situation, group of individuals, or phenomenon. Through data collection and rigorous analysis, a theory is generated that is "grounded" in the voices of those studied. This technique is highly recommended if one is investigating how medical laboratory scientists generate meanings based on their own experiences.

REFERENCES

1. Shank G. 2006. Qualitative research: a personal skills approach, 2nd ed. Upper Saddle River, NJ: Pearson Education, Inc.
2. Glaser B, Strauss A. 1967. The discovery of grounded theory: strategies for qualitative research. Hawthorne, NY: Aldine de Gruyter.
3. Merriam S, Associates. 2002. Qualitative research in practice: examples for discussion and analysis. San Francisco, CA: Jossey-Bass.
4. Merriam S, Simpson E. 2000. A guide to research for educators and trainers of adults, 2nd ed. Malabar, FL: Krieger Publishing Company.
5. Miller W. 2011. Toward conceptual development of a theory of clinical instructor identity using the experiences of medical laboratory science practitioners. Dissertation.

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