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## Grounded Theory: An Alternative Approach to Research in Higher Education

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For well over a century, most social science research has emphasized controlled, experimental, quantitative procedures. The crucial underpinning of this epistemology is the theory of absolute objectivity (Douglas, 1976). In brief, this theory draws a sharp line between subjective and objective so that the internal, subjective experience of human beings is clearly distinguished from objective reality, which is viewed as external to the consciousness of individuals. The subjective is seen as being, like Plato's shadows of the cave, uncertain and untrue, while the objective is viewed as certain, absolute truth. According to the theory of absolute objectivity, subjectivity is controlled or eliminated and objectivity is ensured through the traditional scientific method.

In addition to embracing this epistemology of "logical positivism," social science has also emphasized the testing or verification, rather than the generation, of theory. In part because many social scientists believe that there are outstanding theories aplenty but few confirmations of them, and in part because quantitative methods have become more sophisticated in recent years, the discovery of new theories has received scant attention. Scholars who want to generate theory, rather than test theory through quantitative techniques, have often had to face sharp criticism from their colleagues.

Despite the dominance of logical positivism and verification in modern social science

over the last decade, there nevertheless has been vigorous debate over theory and method. The most heated discussions have concerned method, and a growing number of social scientists have attacked the absolutist conception of objectivity and its concomitant emphasis on quantification (Douglas, 1976; Johnson, 1975). Others argue that many of the existing theories do not fit the data and are simply untenable. They propose that social science research should place more emphasis on theoretical advancement (Glaser and Strauss, 1967).

Out of these debates over theory and method have emerged numerous attempts to formulate alternatives to logical positivism, alternatives that reject the absolutist view of objectivity and the exclusive emphasis that is placed on quantification and verification. These alternatives include phenomenology, ethnomethodology (or "neopraxiology"), participant observation, naturalistic approaches, illuminative evaluation, ethnography, and grounded theory. While there are some important differences among these approaches, they have two common characteristics that distinguish them from mainstream social science research. First, with some qualification, all assert that too much attention has been focused on verification of extant theory at the expense of generating new theory. Second, all reject the subjective-objective dualism, asserting instead that there is an interdependency between the

"knowing subject" or observer and the objects of knowledge. As a consequence, these alternative approaches emphasize the validity and relevance of "qualitative" data, for purposes of both generation and verification of theory.

Within higher education, discussion of theory and method has mirrored the larger social science debate, although markedly less attention has been given to alternative methodologies. The current of mainstream social science—with its exclusive emphasis on verification and quantification—has swept along higher education scholars. Still, a growing number of researchers in the field have begun to explore the possibilities of employing alternative methodologies.

This article considers but one of the alternative approaches to traditional social science theory and research. Grounded theory has been selected for three reasons. First, I am persuaded that of all the alternative approaches it responds most directly and effectively to the theoretical and methodological issues now being raised, without falling prey to the excesses (such as solipsism) of some of the other approaches. Second, grounded theory, which employs the constant comparative method, does not perpetuate the mindless dualisms (such as quantitative versus qualitative research) that have militated against the careful examination of theory and method in higher education. It offers instead an approach to research that can serve as a bridge for reconciling mainstream research with many of the legitimate questions being raised by proponents of alternative approaches. Third, while there is little published research in higher education using any of the alternative methodologies, there is at least some research using grounded theory. Several journal articles using grounded theory have recently been published, and at least three dissertations and a handful of unpublished studies have employed this approach.

The remainder of this article is divided into four sections. The first section explicates grounded theory as an approach to research and presents key features of the strategy. In the second section, the approach is amplified through a discussion of how grounded theory was applied to higher education in a study of academic change. The third section discusses the potential uses of grounded theory as a research strategy in higher education. The last

section identifies the major strengths of the approach and concludes that careful examination of grounded theory can help to reanimate and illuminate debate over the purposes and techniques of research in higher education.

## Grounded Theory as a Research Strategy

### Overview of the Constant Comparative Method

Grounded theory may be defined as theory generated from data systematically obtained through the constant comparative method. An inductive method of discovering theory, constant comparison has been elaborated most systematically by Glaser and Strauss (1967) and was further developed by Glaser (1978). Since the original Glaser and Strauss publication on grounded theory remains the classic statement, this discussion is based largely upon its delineation of the constant comparative method. Before reviewing the method it is important to point out that a substantial number of social scientists have not unjustly criticized Glaser and Strauss for failing to explicate their method adequately so as to guide research. Accordingly, this discussion aims to simplify and clarify the constant comparative method and to illustrate its application to higher education research.

The constant comparative method is a multi-faceted approach to research designed to maximize flexibility and aid the creative generation of theory. The method combines systematic data collection, coding, and analysis with theoretical sampling in order to generate theory that is integrated, close to the data, and expressed in a form clear enough for further testing.

Glaser and Strauss identify four overlapping stages in the comparative method (1967, pp. 101–113). First, the researcher collects and then codes his data into as many categories of analysis as possible. These categories or concepts (or variables) are abstracted by the researcher on the basis of constant comparisons of data incidents with other data incidents. As concepts are developed which are supported by the data, the researcher begins thinking in terms of the theoretical properties of each con-

cept: its dimensions, its relationship to other concepts, and the conditions under which it is pronounced or minimized.

The first stage blends into the second as the analysis moves increasingly from comparing data incident with data incident to comparing the data with properties of the concepts that have been abstracted during the comparison of incidents. In the third stage, continuing analysis and further refinement of concepts and their relationships gradually leads to the development of theory. The theory continues to be delimited as a smaller set of higher level concepts emerges. Finally, when the research is satisfied that the theory has been integrated and the requirements of theoretical saturation have been met, the theory is presented in a discussion format or as a set of propositions. In order to help facilitate understanding of the constant comparative method, it is instructive to examine its central features.

### Collection and Treatment of Data

Data collection is guided initially by the major research question(s) and later by the requirements of theoretical sampling, the process of collecting data for comparative analysis in order to facilitate the generation of theory. The researcher begins by collecting and recording a wide range of data that are pertinent to the research question. The type and range of data collected are limited only by the imagination and energy of the investigator. For example, a researcher might choose to make field observations, conduct interviews, identify pertinent library materials and caches of miscellaneous documents (such as speeches, letters, or committee minutes), and search for unobtrusive sources of data. While most researchers using this method tend to rely exclusively on qualitative data, the possibilities of quantitative data should not be minimized (Glaser & Strauss, 1967, pp. 185–220). Surveys, for example, can provide a rich source of data for generating theory. Through the data collection process, data are continually and systematically sorted, analyzed, and coded as the researcher seeks to abstract from the data concepts, their properties, and their relationships (Schatzman & Strauss, 1973, pp. 108–127). The coding process is central to the analysis, for it provides the bridge between data and theory (Glaser, 1978,

p. 55). Coding forces the researcher to move from the empirical to the conceptual and theoretical level by identifying the underlying patterns in the data. Subsequently, the concepts and relationships that are developed through the coding process guide data collection and analysis in their turn through a process referred to as "theoretical sampling."

### Theoretical Sampling

Collecting data by theoretical sampling means that as a set of concepts is delineated and a primitive theory emerges, this theory controls further data collection. That is, the researcher collects, analyzes, and codes his data and then decides what data to collect next and where to find them solely on the basis of the emerging theory. Put another way, the universe of data to be collected is delimited through the use of theoretical criteria. The search for data relevant to the generation and verification of the theory continues until all of the major concepts and their interrelationships have been theoretically saturated. The criterion for saturation is that no additional data can be found that further embellish the theory.

### Verification of Grounded Theory

As noted above, the constant comparative method, coupled with theoretical sampling, stimulates the gradual development and refinement of concepts, their properties, and their relationship to one another. These concepts and relationships are subject to verification throughout the investigation. As the research progresses, some concepts and hypotheses are eliminated because they are refuted or insufficiently supported by the data, while others are supported or modified by the data. As work nears completion, most of the investigator's time is spent searching for additional evidence to support or reject key concepts and theoretical propositions. This continues until the requirements of theoretical saturation are satisfied. What remains is a grounded theory based on and validated by empirical evidence. It should be noted, however, that the traditional rules of verification are relaxed somewhat in order to promote the discovery of theory, hence, for example, the use of theoretical instead of random sampling.

### Summary

The comparative method is not built upon a predetermined design of data collection and analysis but is a method of continually redesigning research in light of emerging concepts and interrelationships among variables. Through the technique of constant comparative analysis, data are collected from a variety of sources to ensure a rich comparative data base. Controlled throughout by theoretical sampling, the comparative method of continuous coding and analysis lends itself to different methods of data collection which yield a diversity of data, but data that are collected and analyzed only as they relate to the generation and verification of the emerging theory (Conrad, 1978, p. 103).

### An Application of Grounded Theory to Higher Education Research

An introduction to the constant comparative method would be woefully lacking if it failed to provide the reader with some sense of the richness, complexity, and movement that characterize this research strategy in action. Accordingly, I have chosen a piece of higher education research that will both suggest the dynamic of discovery that pervades this approach and illustrate how the method can be applied to a research problem in higher education. The research selected is a study of academic change that I completed in the mid-seventies (Conrad, 1975, 1978).

This study of academic change was organized around two central research questions: What are the major sources of academic change? What are the major processes through which academic change occurs? Through the application of the constant comparative method, I attempted to generate a theory of academic change that responded to these questions.

Consonant with the guidelines of theoretical sampling, I began the research by selecting institutions on the basis of their relevance to the research problem. Thus, only institutions that had recently changed their undergraduate curriculum were considered. Eventually, four diverse institutions were selected which met the sample criterion: University of Rochester,

Aquinas College, Western Michigan University, and Ohio State University.

The first visit to each of the four schools yielded a wide range of data. Interviews were a major source, but a large amount of primary and secondary materials was also gathered: 1) minutes from committees, ad hoc groups, and faculty senates; 2) personal files of committee members; 3) miscellaneous published and unpublished reports; 4) campus newspaper articles; 5) speeches; 6) letters; and 7) tapes of faculty meetings. Although I actively searched for relevant quantitative data in each of the four research settings, the research problem did not easily lend itself to quantitative techniques, and no quantitative data were used in the study.

Confronted by a large body of data during the initial round of field visits, I immediately began to analyze as well as record the data. Using the coding process as a tool for linking the data to the emerging theory, I gradually began to abstract core concepts, their central properties, the conditions under which they were maximized or minimized and, in a preliminary way, their relationship to other concepts. The constant comparison of the data required that I move back and forth between the empirical and the conceptual levels. In the process, many concepts were abandoned for lack of sufficient support or because they were disconfirmed by new data. However, theoretical properties gradually emerged as concepts and relationships were explored, developed, refined, and further tested against new data collected through the process of theoretical sampling.

My search for a grounded theory of academic change began with a visit to the University of Rochester, where a broad organizational and sociological perspective initially guided data collection and analysis. Data analysis suggested that while underlying conflict seemed to be a precondition of academic change, conflicts became visible only when external or internal pressures threatened the status quo. Several major pressures, or sources of change, were derived from the data: curriculum practices at other institutions, faculty subcultures, and organizational turnover. In addition, the evidence at Rochester suggested a political cast to the overall change process, and I began to explore relationships between interest group

pressures, conflict, and change. Significantly, one aspect of the change process emerged as central: the role of an administrative change agent who provides the major impetus for the reexamination of the curriculum by selecting a controlling mechanism for change (Conrad, 1978, p. 105).

A crude theoretical scaffold or framework, composed of a tentative set of concepts and relationships, was developed early at the University of Rochester and further expanded, modified, and tested in subsequent visits to Aquinas College, Western Michigan University, and Ohio State University. This framework was gradually and judiciously erected in order to ensure that additional or alternative explanations of curriculum change were not overlooked, and that framework guided the ongoing process of data collection and analysis. Its dynamic character cannot be overemphasized. Not infrequently, concepts that seemed important in one setting were unsupported or refuted in another. In other instances, I added and tested new concepts, which resulted in the modification of the framework throughout the study.

To illustrate the ongoing dynamic between discovery and verification, it is instructive to review selected findings from Aquinas College, the second institution visited. At Aquinas the political metaphor of academic change assumed a more prominent place and was given sharper focus in the emerging framework. Data from a large number of interviews supported the interpretation that prior to the initiation of efforts to bring about curriculum change, conflicts concerning the academic program had been emasculated. Gradually, however, the Aquinas community had become overtly divided over the issue of curriculum change. Eventually, a new president was selected who agreed to take the position only on the condition that the college would undertake a major self-study of the curriculum. Through careful analysis of the particular circumstances leading to the selection of this new president, I was able to illuminate and refine the relationship between a fragmented and politicized social structure and administrative intervention in the process of academic change.

While the political image of change and the critical role of the administrative change agent were supported and more clearly defined at

Aquinas, I also developed and tested other concepts and relationships there. To cite one example, the concept of "power exertion," as contrasted with more static notions such as "power holding" and the ambiguous term "power," emerged as a core concept in explaining academic change.

The emphasis on discovery, as well as an ongoing concern with verification, continued to guide data collection as visits were made to Western Michigan and Ohio State. I explored alternative explanations of the change process and resisted the tendency toward premature closure, and this resulted in several new concepts, for example, "structural reorganization" as a major source of change. While many of the concepts and relationships derived from the data at the first two institutions were confirmed at Western Michigan and Ohio State, the evidence from the latter two schools led to a considerable refinement of several of these concepts, their properties, and their relationship to academic change. Following the first round of field visits, the theoretical framework was translated into a tentative theory of academic change.

I returned to all of the sample institutions except for the University of Rochester. During this second phase, I placed major emphasis on verification of the theory and gradually delimited the universe of data. Interviews, in particular, were oriented toward testing, elaborating, and refining the theory. After the second round of field visits and additional analysis, I decided that no additional data that would embellish the theory further could be found. The theory of academic change was then codified into a set of formal propositions (Conrad, 1975, pp. 65-261; 1978, pp. 108-110).

### The Uses of Grounded Theory

To conclude this presentation of grounded theory, it may be instructive to suggest some of the potential uses of grounded theory as a research strategy in higher education. First, and most obvious, grounded theory is appropriately used when the major purpose of research is theory development. The methodology of the approach, featuring constant comparison and theoretical sampling, is designed to foster the creative generation of theory.

As of this writing, most (if not all) of the published studies in the higher education literature which have used grounded theory have been in the area of academic change. In addition to the research on academic change discussed earlier (Conrad, 1978), Newcombe and Conrad (1981) recently completed a study using the constant comparative method to generate a theory of mandated academic change. Given the paucity of theory in higher education, the application of grounded theory research to other substantive areas might yield rich dividends. For example, this approach seems particularly suited to such areas as curriculum, college environment, impact studies, and even organizational and administrative behavior.

Second, grounded theory can readily be used in tandem with other research strategies, whether the generation or the verification of theory is the primary focus of the research. For example, a recent study used ethnography, constant comparison, and quantitative techniques to generate a grounded theory of literacy development in community colleges (Richardson, Martens, Fisk, Okun, and Thomas, 1981). The combining of different research strategies, often referred to as "triangulation," can lead to greater confidence in research findings in the field. There are few areas of research in higher education that would not benefit by combining quantitative techniques with the qualitative techniques of grounded theory.

Finally, while grounded theory can consider both qualitative and quantitative data, it is an approach particularly suited to qualitative data, since it provides a systematic set of procedures for collecting and analyzing such data. Yet, to repeat an earlier theme, higher education has made little use of grounded theory, even in qualitative research. Since many of the research problems in higher education are not always well-served by relying exclusively on quantitative data, qualitative techniques such as those used to develop grounded theory merit serious consideration in contemporary research.

It is important to note that research whose major purpose is verification is not best conducted using grounded theory as the sole methodology. While verification does play a central role in grounded theory, verification procedures are systematically relaxed in order

to facilitate the discovery of theory. Hence traditional strategies are more appropriate if verification is the primary concern. At present, most higher education research remains oriented toward the testing of theory and as long as that bias continues, researchers may dismiss grounded theory as inappropriate to all research agendas in the field. The concluding section addresses both the bias toward theory-testing and the bias against qualitative research, and suggests that a reexamination of theory and method in higher education is long overdue.

### Reexamining Theory and Method in Higher Education: The Possibilities of Grounded Theory

As an approach to research, grounded theory has so far been embraced by relatively few researchers in higher education. Since higher education as a field of study has long reflected the twin emphases of mainstream social science on quantification and verification, it is hardly surprising that grounded theory is often dismissed as yet another "soft" approach to research that rejects these traditional emphases and stresses instead theory development and qualitative techniques. To be sure, advocates of grounded theory have failed to defend their approach adequately on at least two counts. First, supporters of grounded theory, in both higher education and the social sciences, have failed to elucidate the methodology in such a manner that it can be applied easily and consistently to a range of research questions. Second, some researchers have presented grounded theory as a competing, rather than complementary, approach to the traditional research paradigm by implying that the constant comparative method rejects traditional emphases on verification and quantification. As a result, it has been easy for higher education researchers to dismiss grounded theory for the wrong reason, namely, that it seems to contravene the scientific method.

While proponents of grounded theory may have contributed to its lack of acceptance, whether by poorly presenting the approach or by failing to communicate the methodology

effectively, the suggestion that grounded theory opposes, rather than complements, traditional emphases on verification and quantification is based on a fundamental misunderstanding. As I wish to make abundantly clear, verification is an important part of the constant comparative method, and grounded theory is theory that has been tested through verification procedures. What some interpret as an antagonism between grounded theory and traditional methods concerning the importance of verification is, on the contrary, only a difference in the relative emphases placed on verification and generation of theory. Similarly, I have shown in this article that the grounded theory approach does not reject quantitative methods; rather, it simply places greater emphasis on qualitative data while, at the same time, using quantitative data when they are obtainable and pertinent to the particular research problem under investigation. In short, grounded theory complements traditional emphases and offers a strategy for reconciling generation with verification of theory and qualitative techniques with quantitative techniques—all in a manner consistent with modern science.

Two major strengths of grounded theory can be identified. The first major strength of grounded theory lies in its possibilities for redirecting higher education research away from an exclusive emphasis on verification and toward the development of theory. Since many of our paradigms and theoretical frameworks (almost all of them borrowed from the social sciences) do not appear to fit the data, it seems a propitious time to redirect our energies. As an inductive and systematic method aimed at discovering theory, constant comparison is especially suited to this task.

The second major strength of grounded theory lies in the important role in research that it assigns to qualitative data. In recent years the objective-subjective dualism, which has provided the justification for the dominance of "quantitative" over "qualitative" techniques, has come under sustained criticism. An increasing number of philosophers of science have attacked the validity of the objective-subjective distinction, yet mainstream social science and higher education research continue to embrace the "objectivity" of quantitative research as against the "subjectivity" of

qualitative research. Notwithstanding the politics of social science, there are no longer any compelling reasons for rejecting qualitative research. In the field of higher education, qualitative data can be a rich source of data both for generating and testing theory, and such data are often more easily obtainable than quantitative data. Through the constant comparative method, grounded theory provides a strategy both for doing qualitative research alone and for combining qualitative and quantitative research.

In conclusion, this examination of grounded theory has explored its potential uses, its strengths and limitations, and its potential for reconciling quantitative with qualitative research and theory generation with theory verification—in short, its possibilities as a research strategy. The discussion of grounded theory has been placed within the context of the need to reanimate and sharpen the debate over theory and method in the field of higher education.

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