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## ABSTRACT

Noting the increasing interest in qualitative research in general and ethnographic research in particular, the authors of this report clarify the place of the latter within the former. The authors present six criteria for an ethnographic approach to education, illustrated with examples, and discuss ethnography's advantages and disadvantages. The six criteria presented are that (1) the problem be discovered in the field, (2) the senior investigator conduct the bulk of the field work, (3) the field work take at least a school year, (4) the senior investigator shall have had cross-cultural experience, (5) multiple research methods be utilized, and (6) the finished product present a wealth of primary data from the studied group. The authors next demonstrate the variety in qualitative research by describing some dimensions on which qualitative studies vary. In the area of data collection, qualitative strategies can vary in at least five ways: (1) the number of sites studied, (2) the extent of researcher immersion in the situation studied, (3) the extent to which activities are structured in advance, (4) the nature of the observation frameworks, and (5) reporting strategies. Data analysis can follow one or more of three approaches: the intuitive, the procedural, or the intersubjective. (Author/PGD)

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TO ETHNOGRAPH OR NOT TO ETHNOGRAPH?  
VARIETIES OF QUALITATIVE RESEARCH IN EDUCATION

by

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TO ETHNOGRAPH OR NOT TO ETHNOGRAPH?  
VARIETIES OF QUALITATIVE RESEARCH IN EDUCATION

Introduction

Recently, a federal project officer told us about a problem he had with a grants competition. A number of the proposals received were to conduct "ethnographic" studies. An anthropologist on the review committee systematically rejected such proposals because the methodologies described were not really ethnographic. The project officer, whose background was in quantitative methods, was confused. He wondered what it took to make a proposal truly ethnographic and whether it really mattered.

This story illustrates two trends in the use of qualitative methods in educational research and evaluation today. On the one hand, there is a growing acceptance of such methodologies, as evidenced by the attention given them in numerous articles, books, and AERA sessions. On the other hand, there is still a great deal of confusion about what these methodologies are. Researchers, policy makers, and practitioners have been introduced to such phrases as ethnography, field methods, case studies, qualitative methods, and naturalistic inquiry without getting a clear idea of which is which.

One of the major sources of confusion concerns the nature of ethnography. The tradition of ethnographic research dates back to World War I (Wax, 1971). There is a substantial interest in employing this approach for policy and evaluation purposes (Wolcott, 1975; Knapp, 1979). We will

argue that ethnography represents a specialized approach to qualitative inquiry. Because there is a developed research community in the discipline of anthropology to learn from, this approach has received a great deal of attention. However, many of the people interested in ethnography do not understand the specialized meaning that anthropologists give to this word. There is, in fact, a greater variety of approaches to data collection and analysis in the field of qualitative inquiry than in ethnography, and it would be a mistake to view the two as synonymous. Moreover, ethnography is more feasible and useful for conducting basic research than for policy and evaluation purposes. For more applied purposes, other forms of qualitative inquiry are more appropriate.

This paper will place ethnography in the larger field of qualitative methods in educational research. After a brief description of qualitative methods, it presents a set of criteria for an ethnographic approach to education along with examples and a discussion of the advantages and disadvantages of ethnography. Next, it describes some dimensions on which qualitative studies vary to show the variety in the larger field. This overview should be useful for those designing evaluation and policy studies in education.

#### Qualitative and Quantitative Inquiry

Despite the fact that many people have written about the advantages, problems, and experiences of using qualitative approaches, few have defined "qualitative." Van Maanen (1979: 520) says it has no precise meaning; he says "it is at best an umbrella term covering an array of interpretive

techniques." Nevertheless, the field of qualitative inquiry can be described in general terms. Qualitative inquiry is conducted primarily through observation and interviewing. Data collection plans, including the foci of a study and the specific methods of collecting and analyzing data, are flexible; they are not as highly structured in advance as in quantitative inquiry. Instead of relying on printed instruments which specify not only research questions but response alternatives, qualitative researchers "use themselves as the principal and most reliable instrument of observation, selection, coordination, and interpretation" (Sanday, 1979: 528). In effect, researchers take advantage of their own subjective understandings of research settings as they gather and interpret information. The data of qualitative inquiry--that is, the data which are collected, interpreted, and communicated to others--are in the form of words rather than numbers.

Qualitative and quantitative inquiry are often viewed as coming out of different paradigms which are incompatible, perhaps irreconcilably so. However, several researchers have suggested that the two approaches can be used together. Rist (1977) is pessimistic about combining the two but says that each has a place in the collective social science enterprise. They should be allowed to coexist peacefully; researchers should use both approaches to illuminate different portions of reality. Reichardt and Cook (1979) show that attributes associated with the qualitative paradigm can be found in quantitative research and vice versa. Denzin (1970) argues that every investigation should use multiple methods of inquiry, such as survey and participant observation, because each method has biases which can be counteracted by other methods. Sieber (1973) points out that

qualitative and quantitative methods can be used to support each other and gives many examples of how this may occur.

### The Place of Ethnography

This section presents criteria for identifying ethnographic studies of education and some examples of ethnographic studies published in the '70s. Then it discusses some advantages and disadvantages of ethnographic research.

#### Criteria for ethnography

In introducing a special issue on ethnography in education in the anthropology journal, Human Organization, Harry Wolcott (1975) both defines ethnography and presents some criteria for knowing when a study is ethnographic.

An ethnography is, literally, an anthropologist's "picture" of the way of life of some interacting human group. . . A deceptively simple test for judging the adequacy of an ethnographic account is to ask whether a person reading it could subsequently . . . anticipate and interpret what occurs in the group as appropriately as its own members (Wolcott, 1975:112).

The idea that an ethnography should help the reader understand the rules by which members of the group govern and interpret their behavior is coming to be an accepted goal for ethnography (Sanday, 1979). Achieving this goal generally requires a fairly extensive product, rich in descriptive detail. Hence, the prototypical ethnographic report is a book-length case study of a single group.

Wolcott goes on to discuss several criteria for an ethnographic approach. We have derived six criteria from his discussion. First, the

problem is discovered in the field. This criterion is not meant to encourage conceptual nihilism or preclude planning. Certainly, Margaret Mead knew she was going to study child development before she ever left for the South Pacific (Mead, 1972), and Wolcott (1973) himself exhibited a great deal of advanced planning in his ethnography of a principal, if only by going through considerable pains in his selection of an appropriate subject. More generally, Goetz and LeCompte (1981) discuss the role of theory in the design of ethnographic research, including problem formulation. The point of this criterion, however, is that the ethnographer avoids rigidly prespecified hypotheses. Instead, the ethnographer prefers to "muddle around" in a setting, develop an understanding of the situation, and use that understanding to refine the initial research problem and formulate an interpretation. In the extreme case, the field situation may suggest an alternative problem, not anticipated when field work began, that is more fruitful to pursue.

Second, the senior investigator should conduct the bulk of the field work personally. Wolcott emphasizes the importance of having the person who does the final write-up conduct the field work (see also Wax, 1971). Only through direct experience does the researcher develop the kind of personal understanding of the subjects that makes an ethnographic account possible. Research assistants may be of use, but they are no substitute for direct participation in the research setting. Experience mediated through a research assistant is no help in internalizing and understanding a situation.



Third, field work should take at least a school year. Here again, the goal is to enhance the utility of the researcher as an instrument. Intensive immersion, it is suggested, is really necessary to understand the rules, customs and conditions governing life in the group studied. A three-day site visit, a growing phenomenon among qualitative researchers, is simply not believed to be enough to break through the researcher's personal beliefs and norms and allow a direct experiencing of those of the group. Incidentally, Wolcott also suggests that the time required to write an ethnographic report is often seriously underestimated. As much time may be required for writeup as for the field work (Wax, 1971).

Fourth, the senior investigator should have had (or be having) a cross-cultural experience. The argument for this criterion is that the contrast provided by knowing another culture helps make manifest what members of the group studied take for granted. Wolcott quotes anthropologist Clyde Kluckhohn (1949:16) who points out that "It would hardly be fish who discovered the existence of water."

Fifth, the ethnographic approach incorporates the use of multiple research methods. Two methods are especially central to ethnography: direct observation of the activity of the group and intensive interviewing of informants who can explain and provide an understanding of what takes place. However, these methods are rarely used alone. Ethnographers may also use structured interviews, surveys, life histories, collections of existing documents and artifacts, unobtrusive measures, psychological techniques, videotape, photography and a variety of other means to put together a picture of the group studies.

Sixth, the finished ethnographic product presents a wealth of primary data from the group in question. Primary data are more than verbal description. They include "works" produced by the subjects themselves including quotes from interviews, excerpts from documents, stories, songs, maps, and sketches. Products minimally structured by the observer, such as photographs, might also be included.

#### Current ethnographic work

There is in fact a growing body of ethnographic research on education in America. To give a flavor of the kind of work that is available, Table 1 presents information showing how well seven case studies published after 1970 meet the criteria for ethnography mentioned above. The list of case studies is illustrative, not comprehensive; and not all are intended to be ethnographies. Most of the studies are among the better known works in the field. Some are newer and their place is not yet established. In putting together the table, two observations became clear to us. First, there are a number of case studies available that meet most of the listed criteria. The criterion least frequently met is for cross-cultural experience. To our knowledge four of the sets of authors listed had no such experience as part of their professional careers. On the other hand, one--John Ogbu--reverses the typical pattern. After decades of Europeans and Americans studying colonial and "primitive" cultures, he is a Nigerian who studies America. Problem identification typically began before field work started but was substantially affected by the field work. In four case studies, the authors knew the issues they

Table 1  
Application of Criteria  
For Ethnography

TITLE	CRITERION					
	Problem Identification in Field	Senior Investigator's Field Activity	Time in Field	Investigator's Cross-Cultural Experience	Methods Used	Wealth of Primary Description
Anatomy of Educational Innovation: An Organizational Analysis of an Elementary School (Smith & Keith, 1971)	Proposal before started; problem reformulated over time	Senior investigator with assistants	1 school year	None	Observation Interviewing Documents	Quotes from field notes and documents.
Great Expectations for Small Schools: The Limitations of Federal Projects (Firestone, 1980)	After arriving in field	Senior investigator did 90% of work	3 years	None	Observation Interviewing Survey Documents	Quotes from interviews, field notes, documents, and open-ended survey items. Specimen forms
Growing Up American: Schooling and the Survival of Community (Peshkin, 1976)	Problem broadly identified before going into field; refined during study	Senior investigator with several assistants	2 years	Nigeria, Pakistan	Observation Interviewing Surveys Documents	Quotes from interviews, documents, and field notes.
Inside High School: The Student's World (Cusick, 1973)	Broad questions framed before study began	Senior investigator working alone	1 year	None	Observation Interviewing Documents	Detailed description Quotes from interviews and observations.
The Man in the Principal's Office: An Ethnography (Wolcott, 1973)	Broad problem identified before going into field	Senior investigator working alone	1 year	North American Indians	Observation Interviewing Documents "Time & Motion" study Questionnaires	Quotes from interviews, field notes, open-ended survey items, and documents.
The Next Generation: An Ethnography of Education in an Urban Neighborhood (Ogbu, 1974)	Problem identified after arriving in field	Senior investigator working alone	2 years	African studying American education	Interviewing Documents Observation Existing data	Quotes from interviews and documents
Organizing an Anarchy: Belief, Bureaucracy and Politics in the National Institute of Education (Sproull, Weiner, Wolf, 1978)	After participation; before and during formal data collection	3 Co-authors did most of work	Worked in and around agency. 2 years of interviewing	None	Participation Interviewing Surveys Documents	Quotes from interviews, congressional testimony, and documents. Organization charts

intended to address before beginning the study, but refined the problem as they went--the typical approach. Sproull, Weiner, and Wolf became involved in a situation as participants before realizing they had a setting and issue worthy of study. Firestone's setting was selected by his employing organization, and he was given no preparation time to formulate a problem. However, his employer also refused to specify a problem, thus giving him the opportunity to do so himself. The other criteria seem to be met in a fairly standard manner.

The second observation concerns the wealth of subject matter and issues addressed in these studies. The studies represented here cover the full range of educational phenomena from the life of students (Cusick) to the machinations of the federal government (Sproull, et al.). There are studies of socialization (Cusick and Peshkin), stratification (Ogbu), and organizational processes (Wolcott, Smith and Keith); studies that look at how schools maintain the stability of the social order (Ogbu, Peshkin) and how they are changed by external forces (Firestone, Smith and Keith); studies that focus on a single individual (Wolcott) and a whole district (Firestone) or agency (Sproull, et al.). Together they provide a rich body of knowledge on many aspects of the complicated American educational system.

#### Advantages and disadvantages of ethnography

Ethnographic research is especially useful for some purposes, for instance, basic research. Yet, it has serious limitations which make it a cumbersome tool to use in its pure form for evaluative or policy

research purposes. The advantages have to do with meaning, process, context, and evidence.

Ethnographies are an especially good way to understand the meanings that participants in settings give to events and actions (for a discussion of the phenomenological underpinnings of ethnography, see Wilson, 1977). The emphasis that this approach gives to revealing the rules that participants use to interpret events places a premium on bringing out these meanings and showing how people actively go about the business of making sense of their lives. A number of the criteria for ethnography help ensure that participants' meanings will become apparent to the researcher. The use of senior investigators to conduct the research and the extensive time spent in the field forces them to encounter participants in the act of expressing and living by their own interpretations. Such barriers to the senior investigator's direct apprehension of the subjects' meanings as thoroughly prespecified data collection procedures, research assistants, and frequent escapes to the university are reduced by these criteria. Cross-cultural experience is supposed to sharpen the researcher's ability to perceive and respond to meanings inherent in the field by sensitizing him or her to variations in cultures and by inculcating the norm of cultural relativity. The criterion of refining the problem in the field encourages the researcher to encounter participants' meanings head-on without the conceptual blinders of preexisting theory. Finally, the reproduction of primary data helps the reader experience some of the life in the setting a little more directly and see how meanings are expressed by participants.

Ethnographies also illustrate the processes that take place in settings studied. Some of the case studies referenced above specifically focus on change (Firestone, Smith and Keith, Sproull et al.). Others describe the daily rounds of individuals and the ongoing processes that take place (Cusick, Wolcott). The length of data collection in ethnography--that is, the researcher's presence in the field for a long period of time--and the emphasis on direct observation ensures that process and activity will be seen. More cross-sectional approaches that capture smaller samples of behavior--e.g., questionnaire responses--are more likely to miss the dynamic aspects of situations. The descriptive nature of ethnographic reports with their wealth of primary data ensure that the nature of the process will be described for the reader.

One of the special strengths of ethnography is its capacity to show how a vast range of contextual factors affect activity (Wilson, 1977). For that reason, it has been suggested that ethnography is the ultimate multivariate research approach. The impact of context is especially apparent in several of these case studies. For instance, Peshkin describes the relationships between a school and its community; Wolcott describes how a principal's behavior is conditioned by teachers, other administrators, and his family; Firestone and Smith and Keith discuss how a variety of school, district, community, and external forces affect planned change processes. Once more, the several criteria that force the senior investigator to become immersed in a specific setting create a sensitivity to ideographic contextual factors that shape activity there.

Finally, ethnographies can provide a wealth of evidence for conclusions and interpretations advanced. This evidence is of a special type, very different from that found in most quantitative studies. Quantitative evidence draws its claim to veracity in part from the reliability and replicability of data collection and analysis procedures--presumably another researcher can repeat the study and obtain similar results--and from the number of cases and strategic comparisons made. However, these strengths require the presentation of fairly abstract knowledge resulting from a great deal of manipulation by the researchers.

Ethnographic evidence is more direct. Interpretations have to be confirmed, or at least related to the respondent's own words. The amount and nature of ethnographic evidence is what makes case studies so interesting as well as believable. The use of multiple methods also lends credibility to ethnographic evidence.

Ethnography also has its special set of disadvantages. Many of these are especially critical for an applied discipline like education which seeks to provide useful information to teachers, school administrators, and various federal, state, and local policy makers. These disadvantages have to do with costs, bulk, timeliness, unpredictability, inadequate attention to "manipulable variables," and generalizability. The costs of conducting an ethnography are considerable. The researcher is in the field on a nearly full-time basis for at least a school year simply collecting data and may work on a part-time basis for several more years to produce the final report. Moreover, the costs of ethnography are increased

because it requires the expensive time of a senior researcher rather than the less costly time of research assistants and interviewers.

Not all the costs are financial. For instance, there is a special form of response burden coming from having someone "hanging around" all the time and watching, although this burden may be less than might be expected. It is rarely complained about by subjects or mentioned by researchers. There is a definite psychic upheaval for the researcher who spends a great deal of time interacting with and coming to identify with research subjects. The marginality of the research role creates many very personal questions about whether and when to intervene in a situation, how to judge others as individuals, and what to say to whom (Metz, 1981; Wacaster and Firestone, 1978).

Another important limitation of ethnographies is their bulk; this has prompted numerous wry jokes over the last decade on the lines of "What do you do with a 600 page ethnography?" However interesting a case study may be, most practicing educators and policy makers do not have the time to sit down and read one, much less several. Information has to be packaged in more compact forms for their use.

A third problem with ethnographies relates to timing. Policy makers usually need to have results quickly because they operate in a world with pressing deadlines for action (Coleman, 1972). The long time required to complete an ethnography makes it likely that the report will be completed after the particular issues that contributed to funding the research have passed. However, insofar as the same issues tend to constantly reappear



in the policy world, the ethnography may speak to a new form of the original concern when it is completed.

A fourth problem has to do with predictability. Funding agents, policy makers, and project directors being studied (among others) want to have some sense of what "the payoff" for an ethnography will be. In many cases, their needs are rather specific and short term. They may want to know what the outcomes of an action project are and whether it can be viewed as a success. Often they are involved in an advocacy activity, for instance hearings before a legislature, where they would like to turn to the ethnographer for supporting evidence (Weiss, 1972). The long time needed to conduct field work and write an ethnography requires that these information needs be put off for an extended time. Perhaps even more frustrating, the criterion of discovering the problem in the field precludes the ethnographer from giving more than the most general idea of what the results of the research will be in advance (Knapp, 1979). The ambiguity about what the payoff will be can create severe pressures on the ethnographer working in a policy research or evaluation setting.

NIE's Experimental Schools Project was an example of one of the few endeavors to try to incorporate something like pure ethnography into an evaluation project, and the contractors conducting the ethnographies met with mixed success. One ethnographer (Everhart, 1976) reports that he was pressured to focus on implementation outcomes and factors affecting them. The researcher saw such action as a breach of the necessary conditions for doing good ethnography. However, when one learns that the funding agency's mission was to assess the utility of a particular implementation

strategy while the researcher was focusing on student peer groups, the reasons for conflict can be understood. Another contractor working for the same agency attempted to buffer the ethnographers from such pressures, but one result was decreased support for the project's ethnographic component and its phase out two years before termination of other data collection activities (Firestone, 1980).

A fifth problem is that ethnographies are not particularly strong at identifying and analyzing the effects of the manipulable variables that interest policy makers (Knapp, 1979). Policy makers want to know about the effects of factors that can be changed through legislation, funding, and regulation. Teachers and administrators are also interested in the effects of variables they can manipulate, but the variables differ. Because of the ethnographer's insistence that research issues be discovered in the field, the policy maker has little guarantee that manipulable variables will be addressed. The case of the ethnographer who studies junior high school peer groups when the funding agent wanted to know how to implement "comprehensive" change could give pause to any agency considering funding ethnographic research. Finally, even where the ethnographer addresses the general issue of interest to policy makers, the tendency to stress context (Wilson, 1977) often means that manipulable variables receive relatively little attention. Thus, where Firestone (1980) did study the implementation process that interested the agency funding his work, his immersion in a school district encouraged him to highlight limitations to the impact of manipulable variables created by local authority structures and conflicts rather than the impact of funding strategies and regulation.

Yet, this study does illustrate how attempts to promote a particular kind of change from afar are undercut by local contextual factors and change processes. Thus the weakness of policy variables is a finding as well as a result of the methodology.

The final limitation has to do with the generalizability of an ethnographic account. Once a particular case has been described in great detail, how does one know if interpretations are applicable in other situations? Policy makers are interested in general applications of findings while practitioners want to know how a finding from the study setting will apply to their particular situations. There is some tendency to believe more easily in the generalizability of large sample, quantitative research simply because of the number of cases included (Mulhauser, 1976). This tendency may be misplaced, of course, when it is not clear how the sample studied represents the larger population to which one wishes to generalize. This is often the case with convenience samples from a neighboring region or studies of special projects. Kennedy (1979) and Stake (1978) suggest that the task of generalizing from an ethnography or, more properly, applying findings should be left to the reader. The person who uses the extensive description in the ethnography should estimate the applicability of various aspects of it to his or her own situation.

## Varieties of Qualitative Methods

The ethnographic approach to research accentuates a number of the characteristics of general qualitative research. There are many situations where qualitative research is useful and appropriate while pure ethnography is not. One of the most exciting trends in the application of qualitative research to education and to other applied fields, including evaluation and policy science, has been the willingness to innovate with the use of qualitative methods. Researchers have borrowed from the existing array of qualitative techniques in more disciplinary research. But they are also developing new approaches, sometimes by adapting qualitative techniques and sometimes by borrowing quantitative techniques. The result is considerable ferment and variety. This section describes and helps organize various data collection and analysis strategies that have been used in qualitative inquiry.

There is a tendency to think of data collection and analysis as separate stages in a linear research process, but that is not the preferred mode of organizing qualitative projects. When the researcher is used as the instrument, incoming data--the very experience of observing and interviewing--can suggest new concepts and relationships (Geer, 1968). Moreover, ongoing data analysis can guide data collection by suggesting new areas to investigate and hypothesized relationships to examine. Glaser and Strauss' (1967) constant comparative method for data analysis is partly a way to guide data collection.

## Data Collection

Data collection strategies can vary in at least five ways: the number of sites included in the study, the extent of researcher immersion in the site, the extent to which data collection activities are structured in advance, the extent to which researchers have generalizing or particularizing frameworks for observation, and reporting strategies.

Number of sites. The classic ethnographic product is a case study of a single group. Anthropology does have a comparative science of ethnology, but its practitioners have historically relied on the published accounts of ethnographers supplemented with artifacts those individuals brought back (for example see Benedict (1934)).

There are numerous examples of multisite qualitative studies in the educational literature. At one extreme are the single researcher's projects with a limited number of sites such as Metz' (1978) examination of authority structures in two desegregated junior high schools and Bossert's (1979) examinations of task structures and social relationships in four classrooms. At the other end are the large, federally-funded projects with numerous sites. These usually rely on teams of researchers. For instance, the Rand Change Agent Study included 24 case studies of federally funded innovations (Greenwood, Mann, and McLaughlin, 1975).

Most of the large studies combine qualitative and quantitative techniques in varying degrees. For instance, the Rand study had a substantial survey component. The exception to this rule, and perhaps the extreme case of large-scale qualitative research, is a recently completed project

by Ray Rist that collected and synthesized participant observation data from 60 youth employment training programs through a series of interim reports to Congress and the relevant federal agencies (Rist, 1981).

Multisite studies have at least two advantages. First, several sites help to overcome some of the generalizability problem. Generally, as patterns are repeated in several locations, the reader can gain confidence that findings are not a fluke resulting from some special characteristic of the site. Second, there is the possibility of making comparisons. For instance, Bossert's (1979) argument that the modal pattern of classroom activity affects the friendship choices of students and teacher-pupil interaction is based on the contrast between two pairs of classrooms.

Extent of immersion. Generally, the more time the researcher spends in the site, the better he or she comes to understand it and is able to draw lessons from it, for at least three reasons. First, the more time a researcher spends with a group, the more likely he or she is to accurately interpret their meanings (Bruyn, 1966). Second, spending sufficient time in a setting allows a researcher to observe the dynamics of change in it and reduces the likelihood that observations will be conducted at an unrepresentative time (Bogdan and Taylor, 1975). Finally, time is important because it allows a researcher to test his or her conclusions many times in many ways (Becker, 1970). Here again, ethnography with its criterion of year-long immersion in a single setting represents a requirement that educational studies frequently cannot meet. The requirement for nearly full-time immersion is expensive and time consuming and effectively precludes cross-site comparison in a one-person project.

There are two typical alternatives to the ethnographic form of high immersion. One is the short-term site visit. Usually, a team of researchers will visit a site for as few as two or three days. The intensive site visit is often used in large-scale national studies where travel is problematic. The short-term site visit has been an important data collection strategy for national studies of the politics of school desegregation (Crain, 1968), district factors promoting educational change (Berman and McLaughlin, 1979), and the status of science education (Stake and Easley, 1978).

A number of design decisions can enhance the validity and usefulness of short-term site visits. First, a team of researchers can "cover" the territory faster and can check each other's impressions. With adequate coordination, disagreements about facts or conclusions can be resolved through further questions before leaving the site. Second, the researchers can be given a rather explicit idea of what they are looking for. When time is short, more focused interviewing and observation are necessary. This often means that experienced researchers with previous understandings of the kind of settings and issues being researched are preferred (McLaughlin, 1981). Finally, it is extremely useful to be able to make at least two visits (Yin and Gwaltney, 1981). That way, impressions formed after the first trip can be clarified and tested with new data.

The second alternative is an ongoing series of intermittent visits. For instance, in one three-year study of educational change, researchers visited several schools on a once-a-week basis (Corbett, 1980; Dawson, 1981). The overall elapsed time for data collection was longer than for some ethnographies, but the number of hours spent in the schools was somewhat less.

Intermittent visits are not useful when sites are beyond driving distance; but for sites in a circumscribed area, they have at least two advantages. First, it is possible to build rapport with respondents in a way that is not possible in a short-term site visit. Researchers get to know the people in the school and vice versa. Thus, relationships develop which encourage respondents to give personal accounts of attitudes and orientations as well as interpretations of events. There is more opportunity to learn about facets of school life that are normally kept from strangers. Second, there are numerous opportunities to observe a variety of settings over an extended period of time. In the short-term site visit the researcher is only privy to whatever happens on the few days he or she is there and must rely on retrospective interviews alone to get a sense of history. During intermittent site visits, the researcher has opportunities to observe classrooms, teachers' lounges, playgrounds and parents' meetings. In addition to observation in these recurrent settings, it is possible--sometimes with the help of a cooperative informant--to arrange to be on the scene for critical events such as special board or staff meetings. The researcher is also able to observe change in the setting. Such observation allows the intermittent site visit approach to be as effective as the ethnography in capturing the process.

Other things being equal, the more time spent at a site, the better, up to a point. However, that point has not been well established. Often, the decision to terminate data collection is dictated by constraints of time and money. Guba (1978) has suggested some substantive guidelines for when to stop the most open-ended forms of data collection. These include



exhaustion of data sources, saturation--that is, the point where categories are well understood and data seem redundant--the emergence of regularities to the investigator, and overextension or the point at which the investigation begins to carry into geographic areas removed from the issue or concern of interest.

Extent of structuring. The ways of categorizing the amount of structure in a project are not well developed. The end points are clear enough, however. On the one hand, there is the situation with seemingly no structure; the researcher sets out with an idea, observes without plan, analyzes the field notes, and writes a report. The other extreme is the study where a complete research design is developed even before data collection begins, the classical quantitative study. Neither of these extremes is found frequently in qualitative research. Instead, two interim structuring devices are used in various combinations.

The first is the use of instrumentation and sampling plans analogous to those found in quantitative research. These are usually introduced as progressive focusing helps define the research problem and data needs. The instruments used in qualitative research ensure that data on prespecified topics will be collected systematically from a sample of individuals or settings--i.e., the amount of missing data will be reduced. However, these instruments vary substantially in the extent to which they are pre-structured. The least structured instrument might be the site visit guide which is essentially a list of topics, issues, or questions to guide observation and interviewing. A more structured instrument is the open-ended interview guide which specifies the questions the interviewer asks of a

respondent (although not necessarily the exact words) and indicates areas to be probed. The most structured instrument is the precoded questionnaire or interview guide where the interviewer must repeat the questions as they are written and check off the appropriate response (Gordon, 1975). The analog for observation is the observation guide which specifies in advance the categories of behavior to rate or count (Rosenshine and Furst, 1973).

Sampling plans serve two purposes. First, they allow the researcher to collect information from a few people and generalize to a larger population, thereby minimizing time and effort. Second, they help overcome bias in the selection of informants. A qualitative researcher often relies heavily on key informants to help interpret what he or she sees, to explain the rules and norms of the group, and to provide other information. However, researchers are often biased in selecting informants. For instance, they are likely to select elite members rather than those from the rank-and-file (Sieber, 1973).

Random sampling is rare in qualitative research. It is intended to enhance generalizability by overcoming unknown sources of bias. At the same time, it makes use of the laws of probability. By contrast, qualitative researchers have a great deal of information about their cases which can be used to anticipate sources of bias and to guide sampling. As a result, they can rely on several other sampling strategies. Representative sampling occurs when sites or informants are selected because they are considered typical of a larger population. Another kind of sampling is purposive, strategic or theoretical sampling. In this

approach small numbers of informants are selected to vary on critical dimensions. Bias can be reduced by introducing variation on sources of bias which the researcher knows from previous observation. At the same time, the researcher creates contrasts that get information that helps illuminate an aspect of the research problem. Snowball sampling involves using informants to identify others who should be interviewed (Denzin, 1970).

These sampling designs can be simple but they may be rather complex. McClintock, Brannon, and Maynard-Moody (1979) describe a number of sampling designs used within single case studies that simultaneously stratify on informant position and the kind of event selected for analysis. Researchers also select extreme cases, deviant cases, or cases where one has a strong basis for predicting that something will or will not be present for special attention.

The other structuring device comes through the researcher's own internalized theoretical sensitivity. Such sensitivity is useful because it heightens the researcher's awareness to some phenomena, but it tends to blunt consciousness of others. Theoretical blinders may be inappropriate in the early stages of a qualitative study. However, as the work progresses and the researcher develops an increased sense of what the important findings might be, such sensitivity becomes essential if closure is to be achieved and the report written. Theoretical sensitivity comes from several sources. One is previous formal training. For instance, in listening to the same discussion by an informant, an organizational sociologist may pick out data relevant to organizational goals and structural

patterns in a school; a social psychologist may hear more about norms, roles, and values; and a linguistic anthropologist may hear more about language patterns and thought processes.

A second source of theoretical sensitivity is the ongoing process of data collection and analysis within a project. Geer (1967) describes how the process of rereading field notes and writing memos about impressions during the first days in the field helps identify concepts to be pursued during later work in a study of college students. Miles (1979:594) describes how a collective project where staff field workers and others developed, implemented, and discarded a number of systems for coding raw field notes finally led to "a common language of concepts which found their way into the general (research) framework, and guided further data analysis in less formal modes."

A third source of theoretical sensitivity that is most relevant to larger projects is intentional training. Many projects that use numerous field workers, especially for short-term site visits, provide extensive training for those individuals. Such training often deals at length with the research issues of the project and gives visitors an idea of what to look for (McLaughlin, 1981). This training often accompanies the use of site visit guides.

The amount of structure in a qualitative study will depend on a number of factors including the number of sites, the length of the study, and the extent to which research problems are prespecified. Comparative cross-site studies, studies of shorter duration and studies with prespecified problems typically start with more structure.

The researcher's framework for observing. When the researcher does most of the observation, variation in personal characteristics will affect the kind of observations made and conclusions drawn. An especially important characteristic is whether the researcher brings a generalizing cognitive framework or one that particularizes to the study.

A generalizing framework helps the researcher identify some broader import or special relevance of the phenomena observed. It can also help identify what is to be observed by presenting a contrast with what has been learned previously--hence, Kluckhohn's comment about fish not discovering water. There are at least three ways to develop such a framework. The anthropologist's preferred method is cross-cultural experience (see above). Cross-cultural experience provides first-hand knowledge of other ways of doing things and, in conjunction with proper training, a relativistic attitude about different modes of behavior that permits one to withhold judgment until research is completed, or even later. The point is not so much a change in countries, however, as contrasting experience. Placing an urban, university researcher in a rural school district or a white researcher in a black ghetto should have the same effect on a somewhat smaller scale. The disadvantage of such preparation is that researchers may spend a great deal of time discovering the obvious before any useful contribution to the knowledge of others can be made. For example, Freilich (1970) presents an example of one anthropologist required to spend two years doing an ethnography where most of the first year was spent learning the language.

A second way to obtain a generalizing framework is to become well versed in a body of sociological, anthropological, or psychological theory. Wolcott (1975) stresses the importance of a strong background in cultural anthropology for ethnographers, but a similar effect would be obtained through immersion in any of several disciplines. Such immersion gives the researcher a body of concepts (not to mention descriptions and findings from previous studies) to use to make sense out of the research situation.

Finally, especially when the field work is intended to address issues of practice, a thorough grounding of the problems facing an applied field can provide a generalizing framework. Such a grounding sensitizes the researcher to issues and keeps him or her on the lookout for possible solutions. However, it can have the opposite effect, creating a set of blinders by convincing the researcher that what is observed is either impossible or immoral for the occupational group of interest before the issue can be fully explored.

A particularizing framework comes from knowing the specific situation very well. Campbell (1974) argues that people who are very familiar with the setting, especially the actual research subjects, have a substantial body of practical knowledge about those settings. Some of it is tacit and difficult to verbalize. Thus, the fish may not discover water, but it can swim better than an anthropologist. Other parts are easily articulated. Campbell argues for incorporating people from the setting into the research team in some role as more than subjects because they can bring this tacit, practical knowledge to the research effort. It seems prob-

able that where research is conducted solely by members of the setting of interest--e.g., a teacher or a school district evaluator--these people may have trouble obtaining the generalizing framework needed to create a useful study. Moreover, the social system studied may constrain what they are willing to say because of fears of reprisals or ostracism or what they actually do see.

Much of the better qualitative research being conducted today is done by individuals with a strong grounding in a social science discipline and general familiarity with educational issues and problems but without cross-cultural experience. These people have generalized frameworks but are far from naive about the settings they study. There have been some successful experiments with collaborations between professional researchers and members of the system studied. For instance, Louis Smith, a university researcher, and William Geoffrey, an elementary school teacher, conducted an ethnography of Geoffrey's classroom (Smith and Geoffrey, 1967).

Reporting requirements. Decisions about who will receive reports make a substantial difference in what information will be available to the researcher. The classic roles of the anthropological ethnographer or the sociological participant observer were determined in large measure by the expectation that these individuals would not provide feedback to the social system studied. Pelto (1970:220) describes the ethnographer's role as one of "interested neutrality" meaning that the researcher's personal opinions or research conclusions are not fed back to the site although they are shared with other researchers. He suggests that the

researcher "is different (from the research subjects) because his core prestige ultimately rests on membership in another, socially distant society; he is neutral in the local competitive scene...and he offers social rewards in exchange for information." The ethnographer's neutrality stems from the expectation that ethnographic reports will not filter back to the society studied but will circulate only among the special social system of academics. He can be trusted because he is not part of the social system. Under these conditions respondents can divulge information that would otherwise be embarrassing or even threatening to a social position or career.

The modern qualitative researcher in education rarely operates in a setting where the stance of interested neutrality can be maintained. With the rise of modern specialties of evaluation and policy research, there is a growing expectation that research results will be fed back to the subject's social system. Research recipients might include the subjects themselves, their superiors, their funding agencies, those writing legislation governing their worklife, or simply colleagues whose respect is valued.

The feedback of research results both opens and closes doors for the researcher, and it affects the kinds of information that respondents will provide. Doors are opened when respondents believe that they will obtain feedback that will help them do their work better, when they will obtain positive publicity, and when they can tell "their story" to some powerful decision maker who would not otherwise hear it. Doors are closed when respondents believe they will get negative publicity and when they believe



that the results of the study will lead to decisions with negative consequences for them.

Firestone (1980) had to deal with these issues in his study of a rural school system where there was a generally accepted belief that he was reporting back to the funding agency on the implementation and outcomes of a grant. (The belief was generally correct, but respondents did not understand that the report would not be submitted until after the project was completed.) The project was a source of major conflict between project leadership, especially the district superintendent, and a substantial group of teachers who opposed the project. Both groups were self-serving in the information they provided. However, since the project leaders controlled formal reporting to the funding agency, they tended to be reticent. The superintendent in particular was difficult (although not impossible) to approach and emphasized the positive. Opposition teachers who had limited opportunities for direct communication with the funding agency were much more approachable and emphasized the negative.

In sum, researchers can rarely adopt the older stance of interested neutrality because they are usually in some sense part of the social system they are studying. Their reports will have consequences for the respondents. Yet, the classic problems of obtaining the respondent's trust remain; without that trust it will be difficult, if not impossible, to obtain the valid data with minimal bias needed for a successful report. Still, with knowledge of the specific situation, the researcher can make decisions--about the audience for reports, the timing of those reports,

and the extent to which specific individuals and institutions are kept anonymous--that can increase the likelihood of developing and maintaining the trust necessary to obtaining high quality data.

### Data Analysis

The topic of data analysis in qualitative research is one of the most underexamined in the field. Miles (1979) quotes Sam Sieber as saying that most textbooks on qualitative research devote less than 10% of their content to analysis. This may be the area where current work in education has the most to offer to fields with a longer tradition of using these techniques.

Data analysis serves at least two major functions. The first is the interpretation of research information. Through data analysis, researchers aggregate and synthesize masses of data into a meaningful depiction of a situation. They also identify new concepts and relationships suggested by the data. Second, data analysis serves a verification function at several levels. For instance, researchers may verify facts, interpretations, the usefulness of specific concepts or variables, and relationships among concepts or variables.

Although there is a tendency to think of interpretation preceding verification, these functions are typically accomplished through an iterative process in qualitative research. Researchers will begin to develop an interpretation and then discard or modify it as contradictory data are discovered. A new or revised interpretation will be developed and then subjected to a more formal test only to be again discarded or amended.

A variety of techniques or approaches are available for both interpretation and verification of qualitative data. While these techniques are quite diverse and can be combined in many different ways, it is useful to sort them into three sets--intuition, procedural techniques, and intersubjective techniques. The bulk of this discussion will examine how each set of techniques can be applied to the tasks of interpretation and verification. A special section will examine applications of each of these techniques to cross-site comparison because that activity has special requirements.

General analysis strategies. Individual intuition is at the heart of the interpretation of qualitative research data, but its use is difficult to describe. Basically, the researcher becomes very familiar with the research phenomenon and his or her materials about it--the actual field setting, notes and memories of interviews and observations of events, and artifacts. This material is placed against preexisting experiences, theories, and formulations of problems in a process that is often subliminal. Through immersion and contemplation, findings emerge. The process is often marked by numerous interim memos through which the researcher records and refines observations.

Intuitive analysis can produce an interpretation that is very satisfying to the researcher; and in the hands of a skilled writer, the result can be extremely convincing to the reader. However, intuitive analysis creates a serious problem of credibility. Speaking from the viewpoint of a self-critical qualitative researcher, Miles (1979:590) asks, "how can

we be sure that an 'earthy,' 'undeniable,' 'serendipitous' finding is not, in fact, wrong." Interpretations must be verified; those developed through intuitive analysis particularly need to be verified through techniques that can be described to readers.

Intuitive techniques can be used for verification by generating predictions and hypotheses from the interpretation and checking them against existing field notes and through further data collection.

According to Campbell (1975:181-182):

In a case study done by an alert social scientist who has thorough local acquaintance, the theory he uses to explain the focal difference also generates predictions or expectations on dozens of other aspects of the culture, and he does not retain the theory unless most of these are confirmed. In some sense, he has tested the theory with degrees of freedom coming from the multiple implications of any one theory. The process is a kind of pattern-matching in which there are many aspects of the pattern demanded by theory that are available for matching with his observations... .

This pattern matching is an important source of rigor and verification in case study analysis. Researchers do in fact reject interpretations that do not fit enough of the facts. However, the process may be relatively ineffective at improving credibility if it is invisible to the reader as is usually the case. If credibility is to be improved in the future, the intuitive process and some illustrations of its application during a study should be described to the reader as part of methodology statements.

Procedural techniques are essentially rule-bound. The researcher follows a procedure to its logical end before drawing a conclusion or verifying it. Such procedures are used primarily to accept or reject data or interpretations; however, the procedures can also be used to develop interpretations. In fact, the constant comparative method developed

by Glaser and Strauss (1967) is intended to generate new concepts. Many procedural techniques are quantitative in that they require some form of coding and counting. However, while rule-bound, they vary in the extent to which they are mechanistic. Many require a great deal of judgment at some points, particularly when data are coded or when decisions about the adequacy of data are made.

The major procedural technique which is used for generating interpretations is the constant comparative method for discovering grounded theory (Glaser and Strauss, 1967). As described by its inventors, this method has four parts.

- Comparing incidents applicable to a category. The researcher compares the new incident to already coded incidents while the coding is in process in order to identify relevant dimensions of variation in the category. As new dimensions become apparent, they are recorded in memos.
- Integrating categories and their properties. As coding continues the unit coded changes from the incident to the property or dimension. This process helps identify the most important explanatory and descriptive categories and develop more abstract categories into which more concrete categories are placed.
- Delimiting the theory. Through further review of field notes, coding schemes, and memos, the researcher creates a smaller set of more general concepts. This step increases both the parsimony and generalizability of the developing theory.
- Writing the theory. With a well organized data set, memo file and theory, the researcher can quickly write up the results.

Many procedural techniques are available for verifying data (Dawson, 1980). They vary in complexity depending on the issues involved and the inventiveness of the researchers. Perhaps the simplest is a rule that

prohibits the researcher from reporting a fact that does not have multiple confirmations. For instance, Greenstone and Peterson (1973) report that their accounts of Community Action Programs in American cities included facts only that had been verified by three or more witnesses.

The existence of analytic categories may require more complex verification that takes into account not only the number of times an event or statement occurs but also the context. For instance, Becker and Geer (1960) report on a procedure for evaluating data indicating the existence of a "perspective" or worldview among a group. This procedure codes statements in field notes according to whether they are volunteered or made in response to questions and whether they are made with the interviewer alone or in front of peers. It also codes activities according to whether they take place in individual or group settings. Rules of thumb for reading these tables suggest that where more statements are volunteered, where more statements are made in a group context, and where there is a balance of statements and activities, then the assurance that a perspective actually exists is increased.

Another way to verify the existence of an analytic category is to "triangulate" or look for convergence across methodologies (Webb et al., 1966). The assumption behind this approach is that different methodologies have compensatory strengths and weaknesses. Where several methodologies lead to the same conclusion, the researcher's confidence in that conclusion is increased substantially. Triangulation may be especially interesting to qualitative researchers because the methods used together are usually some combination of survey and qualitative observation and interviewing.

While triangulation is much discussed, two problems face those attempting to implement it. First, there is more art than science to knowing when two methods in fact present confirmatory evidence. Second, when different methods conflict, there are few guidelines for determining which is more correct. Divergence may actually reflect opportunities to refine interpretations, however. Jick (1979) describes a situation where survey and observational data presented contradictory evidence about who was most distressed by an impending plant merger. Further interviewing led to the discovery that those engaging in the observed behavior--checking the archives for information on similar events in the past--were in fact engaging in behavior that helped reduce stress, thereby leading to the discovery of a new kind of coping mechanism.

Procedures could be developed for other purposes, such as showing the distribution of phenomena and providing evidence for causal relationships, but less work has been done in these areas. Once data are coded, there is a whole range of descriptive statistics that can be used to show distributions.<sup>1</sup> The simpler ones, like percentages and differences, are often most useful. There are at least two approaches for showing causal relationships. One is quantitative--based on using correlational techniques, anything from scatter diagrams to cross-lagged correlations, depending on the quality of the data--to show association. There the body of procedures in the field of statistics apply. The other, which may be more properly qualitative, is the description of process--that is, showing

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<sup>1</sup> It is important to point out here that such procedures can be used only when research phenomena are rated in some manner, such as high to low or good to poor, not when their presence or absence is noted. When research procedures are not highly structured, the presence or absence of data about something does not necessarily represent its actual presence or absence in the setting.

the mediating activities through which an event or orientation comes into existence. However, this approach now depends more on intuition than any established procedure.

Intersubjective techniques generally include strategies which involve interaction among a team of researchers or between researchers and setting participants. Intersubjective techniques are probably used more frequently for verification than interpretation, particularly when they involve interaction between researchers and setting participants, but can be used for interpretation as well. Intersubjective approaches are in fact another form of triangulation. Whether for interpretation or verification, they involve using multiple sources of information.

Interpretations can be generated through collaboration among researchers. Researchers can share their impressions of events in a setting and develop interpretations which have been refined considerably during development. Since teams of researchers generally study multiple sites, this technique will be described more fully below, in the discussion of intersubjective techniques in cross-site analysis. Teams of researchers do occasionally study single sites, but there have been few discussions of how such teams operate. Examples of team research include several studies where Louis Smith was the principal investigator (Smith and Geoffrey, 1968; Smith & Keith, 1971; Smith and Pohland, 1974) and the studies by Becker and associates of a medical school (Becker, Geer, Hughes, and Strauss, 1961) and of undergraduate students (Becker, Geer, and Hughes, 1968).



As noted above, interaction between researchers and setting participants during data analysis is more likely to focus on verification than interpretation, but the latter does occur. Researchers sometimes discuss research findings with participants and ask for their perceptions of why things occurred. Researchers also sometimes informally toss out tentative interpretations to research participants hoping to stimulate them to suggest major or minor refinements.

Verification through intersubjective techniques generally involve taking the strategies described above one step further. Researchers explicitly test their interpretations with other researchers or with setting participants. Researchers may write memos or drafts of reports and ask others to react to them. Interpretations are considered much more likely to be valid if they have been confirmed by people with other perspectives, people such as other researchers or setting participants. It is becoming more common for researchers to present drafts of reports to respondents during or after a study. Yin and Gwaltney (1981) specifically designed their site visits in two waves so that they could test their interpretations with research subjects. The first visit was to learn about the site. A major agenda item for the second visit was to present site staff with a draft case study and obtain a critique that was used to correct facts and revise interpretations.

Our own experience suggests that this approach may set limits to the data that can be reported. As Becker (1964) points out, research subjects are likely to ask for changes that protect their images of themselves

and their schools, organizations, or communities. Moreover, when research reports are submitted to funding agencies, survival and growth as well as self-esteem may be at issue. We are studying how work groups in our own organization provide technical assistance to schools, and our reports present descriptions of the work groups as well as the schools. All of the reports are presented to these work groups before being released to the public--including the major funding agency for our organization. While these reviews have definitely provided new data on the events that took place in schools, we have also been criticized for deviating from the work groups' own interpretation of events or for presenting interpretations that could be viewed as negative evaluations of the work groups' efforts. After several review meetings, it became apparent that certain findings, whether true or not, could not be presented. In sum, review by subjects is a useful way to validate findings and to protect research subjects, but it may also limit what can be presented in a report.

Special cross-site strategies. The techniques described above may be useful in multisite studies to verify facts and develop and verify interpretations; however, multisite studies may also require special techniques for cross-site comparisons. Such comparisons can be made from three different data bases: the researcher's experience in several sites, field notes and other records collected from different sites, and completed case studies. In fact, some of the more interesting cross-site analyses are actually secondary analyses of studies written by others (Dunn and Swierczek, 1977; Yin and Heald, 1975).

As in general analysis strategies, there is an important place for intuition in the interpretation of cross-site data, and the way such intuition works is poorly understood. The researcher generally becomes very familiar with the research site, immerses himself or herself in the research data, and an interpretation emerges. The researcher may consider several alternative interpretations before settling with the one that seems to work best. Sometimes a researcher may work concurrently in several sites (e.g., Metz, 1978) and an interpretation may emerge from a comparison of similarities and differences across sites. Alternatively, the researcher may work with completed case studies, some or all of which may have been conducted by others. For instance, Clark (1970) used three case studies of distinctive colleges to develop the concept of the organizational saga-- a value-laden conception of organizational history that guides and limits direction of future organizational change.

Yin (1981) describes an intuitive strategy which he labels the case-comparison approach. The hallmark of this approach is working outward from the single case. First, the researcher develops an explanation for the outcomes in a single case based on all the data from that case. Next the researcher seeks to apply the same explanation to a second case. Modifications are made to fit the specifics of the given situation. The researcher continues working outward from one case to the next until an explanation is developed that applies to all cases. The art of the matter is knowing the acceptable limits of modification of the original explanation; but if well done, this approach should lead to grounded general explanations with appropriate limitations because of other "variables."

This approach is an interesting example of how interpretation and verification are combined iteratively in a single technique. Each time an interpretation is applied to a new site it is, to some extent, tested. The approach has been applied in an interesting manner to understand how networks centered on Educational Service Agencies contribute to knowledge use in schools (Yin and Gwaltney, 1981). It is not always effective, however. For instance, Crain (1968) reports that explanations generated separately from separate case studies of northern urban school desegregation could not be applied usefully to the set of cases. Instead, he was forced to turn to the sort of procedural techniques described below. We do not yet know under what conditions working outward from single cases is the most effective way to proceed.

A procedural technique which can be used to refine and verify cross-site interpretations is the constant comparative method of analysis developed by Glaser and Strauss (1967) which was described earlier. The method can be combined with data collection and analysis driven by theoretical sampling--that is, including new groups in a study in order to progressively refine an interpretation or theoretical analysis. As a theory emerges, researchers decide what kinds of data need to be collected next and what group would be likely to provide data which would be most informative to the theory. The group is then studied and appropriate comparisons are made. This process is continued until the data which are collected no longer produce information that is useful to the further development of the theory; Glaser and Strauss refer to this as

the point of "theoretical saturation." While they emphasize that the strategies should be used for generating rather than testing theory, they do have sufficient confidence in grounded theory to recommend that it be used without waiting until it has been tested further. And, the fact that new groups are identified and studied to the point of saturation means that interpretations have been tested at least as thoroughly as they would have through most other verification strategies.

Most procedural techniques for cross-site comparison tend to stress verification more than interpretation. They also tend to be more quantitative than the Glaser and Strauss approach. One such technique is to present distributions of events in various sites. For instance, Bossert (1979) shows the relationship between task structures and social relationships in classrooms through a two-step process. First, he shows that different classrooms have different task structures by presenting distributions of four kinds of activities in the four classrooms: recitation (all group question and answer), class task (all students working on the same task at their desks), multitask (students working on several tasks), and free time. Next, he presents rates of disciplinary activity and sociometric data by classroom in order to show that classes with different rates of recitation have different teacher-student and student-student relationships.

Another approach, which has many variations, is to code sites on a set of variables and look for allocations among variables. Yin and Heald (1975) have labelled this approach the case survey method. Firestone and

Corbett (1981) were among the few to do this directly from field experience and field notes. First, as a means of data reduction, 42 descriptive questions were asked about events in eleven school teams planning for educational change. When forms for answering these questions were completed, illustrative quotes were also entered along with page numbers in field notes and assessments of data quality. Second, the sheets were used to identify nine variables related to change, and teams were rated as high, medium, and low on each. Finally, bivariate scatter diagrams were constructed. These suggested that change outcomes were more a result of school factors than of outside interventions. Similar approaches have been used with completed case studies. For instance, Yin and Heald (1975) applied much the same logic to 269 case studies of governmental decentralization in urban areas.

Several intersubjective techniques have been used in the interpretation of data from multiple sites. One approach involves using a team of researchers working together. For instance, Stake and Easley (1978) used a team of researchers to examine the status of science education in ten school districts across the country. Ten case studies were conducted in a staggered schedule so that later studies could inform and confirm findings from earlier ones. In addition, a research team consisting of the staff at the central location and some of the case study researchers met to discuss research findings. These discussions focused on both within-site and cross-site issues. The data base used in the discussions included impressions from site visits and field work, records of interviews and other field experiences, and completed case studies. Through the meetings, the staff refined a list of

issues and problems that had been identified when the study proposal was written (Stake, 1981), developed a shared understanding of those issues, and identified topics for subsequent data collection. Through this process, the research team was able to develop and substantiate a multisite analysis of science education that was presented in the project's final report.

Another approach is to develop multiple, independent cross-site syntheses. Herriott and Gross (1979) followed this approach. They presented synthesizers with five detailed case studies written to a common format. Each synthesizer was asked to review the cases and draw implications for a particular user group--school administrators, federal program designers, federal program implementors, and trainers of school administrators among others. Finally, the editors analyzed the total opus drawing on both the original case studies and the first set of syntheses. The report of this effort presents the case studies, the several syntheses, and the overall analysis. The reader working across the report can identify commonalities in the various syntheses and analyses, identify "findings" of interest to a particular audience, and draw his or her own conclusions from the original "data."

The intersubjective strategies described here for interpretation involve so much collaboration among so many people who are familiar with the sites studied that a researcher can be fairly confident that the data and interpretations are valid. However, there may also be a stage at which an interpretation that has been generated collaboratively is then

very deliberately tested among the team of researchers. For example, the interpretation may be put in writing and submitted to all members of the team for their reactions. They will particularly compare the interpretations with their impressions, and perhaps with their field data, of what occurred in the sites for which they were responsible. While interpretations may not apply equally well to all sites, they cannot be accepted if there is unexplained contradictory evidence from one or more sites.

### Discussion

The varieties and combinations of methods that can be used within qualitative inquiry make it a very flexible research approach, much more flexible than the ethnographic subset of qualitative inquiry. Ethnography, with the criteria established for it by members of its founding discipline, anthropology, requires more resources than many educational policy researchers and evaluators have available to them. It is particularly difficult for them to spend an entire school year, or more, conducting the fieldwork for a single study, especially if the bulk of the fieldwork is to be conducted by senior investigators. Furthermore, ethnographers are frequently less inclined to focus on the policy questions identified by research contractors or other audiences than to pursue questions they identify themselves in the field. Those questions frequently revolve around such disciplinary concerns as the rules, norms, and habits of a particular group or other contextual factors rather than manipulable factors that affect educational program implementation or effectiveness.

The availability of many kinds and combinations of data collection and analysis strategies in qualitative inquiry give researchers a wealth of



alternatives to select from when designing studies. Within single- or multiple-site studies, there are many intuitive, procedural, and interpersonal strategies that can be combined in a variety of ways. An awareness of this variety allows a researcher to design a study to meet specific research questions, decision purposes, resource constraints, and timelines without unduly compromising the researcher's principles. Variety also facilitates the use of multiple methods of inquiry. This allows the researcher to capitalize on the strengths of one method to overcome the weaknesses of another. And, since different methods illuminate different aspects and perceptions of a social setting, a more complete portrait of the setting can be pieced together.

During recent years, considerable attention has been paid to the alternative kinds of qualitative inquiry which are available. Many methodological articles and books have been written. A great variety of qualitative research and evaluation studies have been conducted. They include relatively pure ethnographic case studies, short-term comparative studies, and studies that mix qualitative and quantitative methods in diverse ways. Moreover, after a decade of experimenting with different approaches to qualitative inquiry, the research community seems to be entering a period of reflecting on the methods used and attempting to strengthen them. Several scholars have recently initiated studies to review recent qualitative studies, codify the methods of data collection and analysis employed, and identify the ones that seem to be the most exemplary and most often used. These efforts will no doubt contribute to the accumulation of

knowledge about qualitative inquiry. However, they are unlikely to resolve all of the methodological concerns that need to be addressed.

Those concerns include:

- How can various combinations of methods be used most effectively? What kinds of methods seem especially capable of compensating for one another? What combinations can be used without putting an unbearable strain on research resources?
- How can apparently discrepant data elicited through different methodologies be resolved? What procedures can a researcher use to determine that the data produced by some methods are more valid, or simply represent different aspects or perceptions of reality? If the latter, how can a coherent portrait of reality be put together?
- What new approaches to data collection and analysis will simultaneously optimize the use of the researcher's subjective understanding and the replicability of research findings?
- How can researchers who have been trained in quantitative inquiry become proficient in qualitative approaches and vice versa? Alternatively, what management practices are available to allow researchers with different backgrounds to combine efforts on a single project?
- How can the research design process be strengthened so there is a better match between problems and methods and less "contamination" by the researchers' preferences?
- How can qualitative methods be used flexibly without reducing the rigorousness of research? What procedures can be developed to help researchers estimate whether and how the combinations of methods they are using produce sufficiently rigorous answers to their research questions?

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