Research Methods in Education

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6 Naturalistic and ethnographic research

Elements of naturalistic inquiry

Chapter 1 indicated that several approaches to educational research are contained in the paradigm of qualitative, naturalistic and ethnographic research. The characteristics of that paradigm (Boas, 1943; Blumer, 1969; Lincoln and Guba, 1985; Woods, 1992; LeCompte and PREIs, 1993) include:

- humans actively construct their own meanings of situations;
- meaning arises out of social situations and is handled through interpretive processes;
- behaviour and, thereby, data are socially situated, context-related, context-dependent and context-rich. To understand a situation researchers need to understand the context because situations affect behaviour and perspectives and vice versa;
- realities are multiple, constructed and holistic;
- knowers and known are interactive, inseparable;
- only time- and context-bound working hypotheses (idiographic statements) are possible;
- all entities are in a state of mutual simultaneous shaping, so that it is impossible to distinguish causes from effects;
- inquiry is value-bound:
  - inquiries are influenced by inquirer values as expressed in the choice of a problem, evaluand, or policy option, and in the framing, bounding, and focusing of that problem, evaluand or policy option;
  - inquiry is influenced by the choice of the paradigm that guides the investigation into the problem;
- inquiry is influenced by the choice of the substantive theory utilized to guide the collection and analysis of data and in the interpretation of findings;
- inquiry is influenced by the values that inhere in the context;
- inquiry is either value-resident (reinforcing or congruent) or value-dissonant (conflicting). Problem, evaluand, or policy option, paradigm, theory, and context must exhibit congruence (value-resonance) if the inquiry is to produce meaningful results;
- research must include 'thick descriptions' (Geertz, 1973) of the contextualized behaviour;
- the attribution of meaning is continuous and evolving over time;
- people are deliberate, intentional and creative in their actions;
- history and biography intersect – we create our own futures but not necessarily in situations of our own choosing;
- social research needs to examine situations through the eyes of the participants – the task of ethnographies, as Malinowski (1922: 25) observed, is to grasp the point of view of the native [sic], his [sic] view of the world and relation to his life;
- researchers are the instruments of the research (Eisner, 1991);
- researchers generate rather than test hypotheses;
- researchers do not know in advance what they will see or what they will look for;
- humans are anticipatory beings;
- human phenomena seem to require even
more conditional stipulations than do other kinds;
- meanings and understandings replace proof;
- generalizability is interpreted as generalizability to identifiable, specific settings and subjects rather than universally;
- situations are unique;
- the processes of research and behaviour are as important as the outcomes;
- people, situations, events and objects have meaning conferred upon them rather than possessing their own intrinsic meaning;
- social research should be conducted in natural, uncontrived, real world settings with as little intrusiveness as possible by the researcher;
- social reality, experiences and social phenomena are capable of multiple, sometimes contradictory interpretations and are available to us through social interaction;
- all factors, rather than a limited number of variables, have to be taken into account;
- data are analysed inductively, with constructs deriving from the data during the research;
- theory generation is derivative – grounded (Glaser and Strauss, 1967) – the data suggest the theory rather than *vice versa*.

Lincoln and Cuba (1985: 39–43) tease out the implications of these axioms:
- studies must be set in their natural settings as context is heavily implicated in meaning;
- humans are the research instrument;
- utilization of tacit knowledge is inescapable;
- qualitative methods sit more comfortably than quantitative methods with the notion of the human-as-instrument;
- purposive sampling enables the full scope of issues to be explored;
- data analysis is inductive rather than a priori and deductive;
- theory emerges rather than is pre-ordnate. A priori theory is replaced by grounded theory;
- research designs emerge over time (and as the sampling changes over time);
- the outcomes of the research are negotiated;
- the natural mode of reporting is the case study;
- nomothetic interpretation is replaced by idiographic interpretation;
- applications are tentative and pragmatic;
- the focus of the study determines its boundaries;
- trustworthiness and its components replace more conventional views of reliability and validity.

LeCompte and Preissle (1993) suggest that ethnographic research is a process involving methods of inquiry, an outcome and a resultant record of the inquiry. The intention of the research is to create as vivid a reconstruction as possible of the culture or groups being studied (p. 235). That said, there are several purposes of qualitative research, for example, description and reporting, the creation of key concepts, theory generation and testing. LeCompte and Preissle (1993) indicate several key elements of ethnographic approaches:
- phenomenological data are elicited (p. 3);
- the world view of the participants is investigated and represented – their ‘definition of the situation’ (Thomas, 1923);
- meanings are accorded to phenomena by both the researcher and the participants; the process of research, therefore is hermeneutic, uncovering meanings (LeCompte and Preissle, 1993: 31–2);
- the constructs of the participants are used to structure the investigation;
- empirical data are gathered in their naturalistic setting (unlike laboratories or in controlled settings as in other forms of research where variables are manipulated);
- observational techniques are used extensively (both participant and non-participant) to acquire data on real-life settings;
- the research is holistic, that is, it seeks a description and interpretation of ‘total phenomena’;
- there is a move from description and data to inference, explanation, suggestions of causation, and theory generation;
methods are 'multimodal' and the ethnographer is a 'methodological omnivore' (ibid.: 232).

Hitchcock and Hughes (1989: 52–3) suggest that ethnographies involve:

- the production of descriptive cultural knowledge of a group;
- the description of activities in relation to a particular cultural context from the point of view of the members of that group themselves;
- the production of a list of features constitutive of membership in a group or culture;
- the description and analysis of patterns of social interaction;
- the provision as far as possible of 'insider accounts';
- the development of theory.

There are several key differences between this approach and that of the positivists to whom we made reference in Chapter 1. LeCompte and Preissle (ibid.: 39–44) suggest that ethnographic approaches are concerned more with description rather than prediction, induction rather than deduction, generation rather than verification of theory, construction rather than enumeration, and subjectivities rather than objective knowledge. With regard to the latter, the authors distinguish between emic approaches (as in the term 'phonemic', where the concern is to catch the subjective meanings placed on situations by participants) and etic approaches (as in the term 'phonetic', where the intention is to identify and understand the objective or researcher's meaning and constructions of a situation) (p. 45).

That said, Woods (1992) argues that some differences between quantitative and qualitative research have been exaggerated. He proposes, for example (p. 381), that the 1970s witnessed an unproductive dichotomy between the two, the former being seen as strictly in the hypothetico-deductive mode (testing theories) and the latter being seen as the inductive method used for generating theory. He suggests that the epistemological contrast between the two is overstated, as qualitative techniques can be used both for generating and testing theories.

Indeed Dobbert and Kurth-Schai (1992) urge ethnographic approaches to become not only more systematic but to study and address regularities in social behaviour and social structure (pp. 94–5). The task of ethnographers is to balance a commitment to catch the diversity, variability, creativity, individuality, uniqueness and spontaneity of social interactions (e.g. by 'thick descriptions' (Geertz, 1973)) with a commitment to the task of social science to seek regularities, order and patterns within such diversity (ibid.: 150). As Durkheim noted, there are 'social facts'.

Following this line, it is possible, therefore, to suggest that ethnographic research can address issues of generalizability — a tenet of positivist research — interpreted as 'comparability' and 'translatability' (LeCompte and Preissle, 1992: 47). For comparability the characteristics of the group that is being studied need to be made explicit so that readers can compare them with other similar or dissimilar groups. For translatability the analytic categories used in the research as well as the characteristics of the groups are made explicit so that meaningful comparisons can be made to other groups and disciplines.

Spindler and Spindler (1992: 72–4) put forward several hallmarks of effective ethnographies:

- Observations have contextual relevance, both in the immediate setting in which behaviour is observed and in further contexts beyond.
- Hypotheses emerge in situ as the study develops in the observed setting.
- Observation is prolonged and often repetitive. Events and series of events are observed more than once to establish reliability in the observational data.
- Inferences from observation and various forms of ethnographic inquiry are used to address insiders' views of reality.
- A major part of the ethnographic task is to elicit sociocultural knowledge from participants, rendering social behaviour comprehensible.
Instruments, schedules, codes, agenda for interviews, questionnaires, etc. should be generated in situ, and should derive from observation and ethnographic inquiry.

A transcultural, comparative perspective is usually present, although often it is an unstated assumption, and cultural variation (over space and time) is natural.

Some sociocultural knowledge that affects behaviour and communication under study is tacit/implicit, and may not be known even to participants or known ambiguously to others. It follows that one task for an ethnography is to make explicit to readers what is tacit/implicit to informants.

The ethnographic interviewer should not frame or predetermine responses by the kinds of questions that are asked, because the informants themselves have the emic, native cultural knowledge.

In order to collect as much live data as possible, any technical device may be used.

The ethnographer’s presence should be declared and his or her personal, social and interactional position in the situation should be described.

With ‘mutual shaping and interaction’ between the researcher and participants taking place (Lincoln and Guba, 1985: 155) the researcher becomes, as it were, the ‘human instrument’ in the research (ibid.: 187), building on her tacit knowledge in addition to her propositional knowledge, using methods that sit comfortably with human inquiry, e.g. observations, interviews, documentary analysis and ‘unobtrusive’ methods (ibid.: 187). The advantage of the ‘human instrument’ is her adaptability, responsiveness, knowledge, ability to handle sensitive matters, ability to see the whole picture, ability to clarify and summarize, to explore, to analyse, to examine atypical or idiosyncratic responses (ibid.: 193–4).

Planning naturalistic research

In many ways the issues in naturalistic research are not exclusive; they apply to other forms of research, for example: identifying the problem and research purposes; deciding the focus of the study; selecting the research design and instrumentation; addressing validity and reliability; ethical issues; approaching data analysis and interpretation. These are common to all research. More specifically Wolcott (1992: 19) suggests that naturalistic researchers should address the stages of watching, asking and reviewing, or, as he puts it, experiencing, inquiring and examining. In naturalistic inquiry it is possible to formulate a more detailed set of stages that can be addressed (Hitchcock and Hughes, 1989: 57–71; LeCompte and Preissle, 1993; Bogdan and Biklen, 1992):

Stage 1 Locating a field of study.
Stage 2 Addressing ethical issues.
Stage 3 Deciding the sampling.
Stage 4 Finding a role and managing entry into the context.
Stage 5 Finding informants.
Stage 6 Developing and maintaining relations in the field.
Stage 7 Data collection in situ.
Stage 8 Data collection outside the field.
Stage 9 Data analysis.
Stage 10 Leaving the field.
Stage 11 Writing the Report.

These stages – addressed later in this chapter – are shot through with a range of issues that will affect the research, for example:

- personal issues (the disciplinary sympathies of the researcher, researcher subjectivities and characteristics. Hitchcock and Hughes (1989: 56) indicate that there are several serious strains in conducting fieldwork because the researcher’s own emotions, attitudes, beliefs, values, characteristics enter the research; indeed the more this happens the less will be the likelihood of gaining the participants’ perspectives and meanings);
- the kinds of participation that the researcher will undertake;
- issues of advocacy (where the researcher may be expected to identify with the same emo-
tions, concerns and crises as the members of the group being studied and wishes to advance their cause, often a feature that arises at the beginning and the end of the research when the researcher is considered to be a legitimate spokesperson for the group;
  • role relationships;
  • boundary maintenance in the research;
  • the maintenance of the balance between distance and involvement;
  • ethical issues;
  • reflexivity.

Reflexivity recognizes that researchers are inescapably part of the social world that they are researching, and, indeed, that this social world is an already interpreted world by the actors, undermining the notion of objective reality. Researchers are in the world and of the world. They bring their own biographies to the research situation and participants behave in particular ways in their presence. Reflexivity suggests that researchers should acknowledge and disclose their own selves in the research; they should hold themselves up to the light, echoing Cooley’s (1902) notion of the ‘looking glass self’. Highly reflective researchers will be acutely aware of the ways in which their selectivity, perception, background and inductive processes and paradigms shape the research. They are research instruments. McCormick and James (1988: 191) argue that combating reactivity through reflexivity requires researchers to monitor closely and continually their own interactions with participants, their own reaction, roles, biases, and any other matters that might bias the research. This is addressed more fully in the chapter 5 on validity, encompassing issues of triangulation and respondent validity.

Lincoln and Guba (1985: 226–47) set out ten elements in research design for naturalistic studies:

1. Determining a focus for the inquiry.
2. Determining fit of paradigm to focus
3. Determining the fit of the inquiry paradigm to the substantive theory selected to guide the inquiry.

4. Determining where and from whom data will be collected.
5. Determining successive phases of the inquiry.
6. Determining instrumentation.
7. Planning data collection and recording modes.
8. Planning data analysis procedures.
9. Planning the logistics:
   • prior logistical considerations for the project as a whole;
   • the logistics of field excursions prior to going into the field;
   • the logistics of field excursions while in the field;
   • the logistics of activities following field excursions;
   • the logistics of closure and termination.

This can be set out into a sequential, staged approach to planning naturalistic research (see, for example: Schatzman and Strauss, 1973; Delamont, 1992). Spradley (1979) sets out the stages of: (a) selecting a problem; (b) collecting cultural data; (c) analysing cultural data; (d) formulating ethnographic hypotheses; writing the ethnography. More fully, we suggest an eleven stage model.

Stage 1: locating a field of study

Bogdan and Biklen (1992: 2) suggest that research questions in qualitative research are not framed by simply operationalizing variables as in the positivist paradigm. Rather, they propose that research questions are formulated in situ and in response to situations observed, i.e. that topics are investigated in all their complexity, in the naturalistic context.

Stage 2: addressing ethical issues

Deyie, Hess and LeCompte (1992: 623) identify several critical ethical issues that need to be addressed in approaching the research:

How does one present oneself in the field? As
whom does one present oneself? How ethically defensible is it to pretend to be somebody that you are not in order to: (a) gain knowledge that you would otherwise not be able to gain; (b) gain and preserve access to places which otherwise you would be unable to gain or sustain such access?

The issues here are several. Firstly, there is the issue of informed consent (to participate and for disclosure), whether and how to gain participant assent (see also LeCompte and Preissle, 1993: 66). This uncovers another consideration, namely covert or overt research. On the one hand there is a powerful argument for informed consent. However, the more participants know about the research the less naturally they may behave (ibid.: 108), and naturalism is self-evidently a key criterion of the naturalistic paradigm.

Mitchell (1993) catches the dilemma for researchers in deciding whether to undertake overt or covert research. The issue of informed consent, he argues, can lead to the selection of particular forms of research – those where researchers can control the phenomena under investigation – thereby excluding other kinds of research where subjects behave in less controllable, predictable, prescribed ways, indeed where subjects may come in and out of the research over time.

He argues that in the real social world access to important areas of research is prohibited if informed consent has to be sought, for example in researching those on the margins of society or the disadvantaged. It is in the participants’ own interests that secrecy is maintained as, if secrecy is not upheld, important work may not be done and ‘weightier secrets’ (ibid., p. 54) may be kept which are of legitimate public interest and in the participants’ own interests. Mitchell makes a powerful case for secrecy, arguing that informed consent may excuse social scientists from the risk of confronting powerful, privileged, and cohesive groups who wish to protect themselves from public scrutiny. Secrecy and informed consent are moot points. The researcher, then, has to consider her loyalties and responsibilities (LeCompte and Preissle, 1993: 106), for example what is the public’s right to know and what is the individual’s right to privacy? (Morrison, 1993).

In addition to the issue of overt or covert research, LeCompte and Preissle (1993) indicate that the problems of risk and vulnerability to participants must be addressed; steps must be taken to prevent risk or harm to participants (non-maleficence – the principle of primum non nocere). Bogdan and Biklen (1992: 54) extend this to include issues of embarrassment as well as harm to the participants. The question of vulnerability is present at its strongest when participants in the research have their freedom to choose limited, e.g. by dint of their age, by health, by social constraints, by dint of their life style (e.g. engaging in criminality), social acceptability, experience of being victims (e.g. of abuse, of violent crime) (p. 107). As the authors comment, participants rarely initiate research, so it is the responsibility of the researcher to protect participants. Relationships between researcher and the researched are rarely symmetrical in terms of power; it is often the case that those with more power, information and resources research those with less.

A standard protection is often the guarantee of confidentiality, withholding participants’ real names and other identifying characteristics. The authors contrast this with anonymity, where identity is withheld because it is genuinely unknown (p. 106). The issues of identifiability and traceability are raised. Further, participants might be able to identify themselves in the research report though others may not be able to identify them. A related factor here is the ownership of the data and the results, the control of the release of data (and to whom, and when) and what rights respondents have to veto the research results. Patrick (1973) indicates this point at its sharpest, when as an ethnographer of a Glasgow gang, he was witness to a murder; the dilemma was clear – to report the matter (and thereby, also to ‘blow his cover’, consequently endangering his own life) or to stay as a covert researcher.

Bogdan and Biklen (1992: 54) add to this dis-
cussion the need to respect participants as subjects, not simply as research objects to be used and then discarded.

Stage 3: deciding the sampling

In an ideal world the researcher would be able to study a group in its entirety. This was the case in Goffman’s (1968) work on ‘total institutions’ – e.g. hospitals, prisons and police forces. It was also the practice of anthropologists who were able to study specific isolated communities or tribes. That is rarely possible nowadays because such groups are no longer isolated or insular. Hence the researcher is faced with the issue of sampling, that is, deciding which people it will be possible to select to represent the wider group (however defined). The researcher has to decide the groups for which the research questions are appropriate, the contexts which are important for the research, the time periods that will be needed, and the possible artefacts of interest to the researcher. In other words decisions are necessary on the sampling of people, contexts, issues, time frames, artefacts and data sources.

As LeCompte and Preissle (ibid.: 82–3) point out that ethnographic methods rule out statistical sampling, for a variety of reasons:

- the characteristics of the wider population are unknown;
- there are no straightforward boundary markers (categories or strata) in the group;
- generalisability, a goal of statistical methods, is not necessarily a goal of ethnography;
- characteristics of a sample may not be evenly distributed across the sample;
- only one or two subsets of a characteristic of a total sample may be important;
- researchers may not have access to the whole population;
- some members of a subset may not be drawn from the population from which the sampling is intended to be drawn.

Hence other types of sampling are required. A criterion-based selection requires the researcher to specify in advance a set of attributes, factors, characteristics or criteria that the study must address. The task then is to ensure that these appear in the sample selected (the equivalent of a stratified sample). There are other forms of sampling (discussed in Chapter 4) that are useful in ethnographic research (Bogdan and Biklen, 1992: 70; LeCompte and Preissle, 1993: 69–83), such as:

- convenience sampling (opportunistic sampling, selecting from whoever happens to be available);
- critical-case sampling (e.g. people who display the issue or set of characteristics in their entirety or in a way that is highly significant for their behaviour);
- the norm of a characteristic is identified, then the extremes of that characteristic are located, and finally, the bearers of that extreme characteristic are selected;
- typical case sampling (where a profile of attributes or characteristics that are possessed by an ‘average’, typical person or case is identified, and the sample is selected from those typical people or cases);
- unique-case sampling, where cases that are rare, unique or unusual on one or more criteria are identified, and sampling takes places within these. Here whatever other
characteristics or attributes a person might share with others, a particular attribute or characteristic sets that person apart.

- reputational-case sampling, a variant of extreme-case and unique-case sampling, is where a researcher chooses a sample on the recommendation of experts in the field;
- snowball sampling—using the first interviewee to suggest or recommend other interviewees.

Patton (1980) identifies six types of sampling that are useful in naturalistic research, including:

- **sampling extreme/deviant cases**—this is done in order to gain information about unusual cases that may be particularly troublesome or enlightening;
- **sampling typical cases**—this is done in order to avoid rejecting information on the grounds that it has been gained from special or deviant cases;
- **maximum variation sampling**—this is done in order to document the range of unique changes that have emerged, often in response to the different conditions to which participants have had to adapt;
- **sampling critical cases**—this is done in order to permit maximum applicability to others—if the information holds true for critical cases (e.g. cases where all of the factors sought are present), then it is likely to hold true for others;
- **sampling politically important or sensitive cases**—this can be done to draw attention to the case;
- **convenience sampling**—this saves time and money and spares the researcher the effort of finding less amenable participants.

Lincoln and Guba (1985: 201–2) suggest an important difference between conventional and naturalistic research designs. In the former the intention is to focus on similarities and to be able to make generalizations, whereas in the latter the objective is informational, to provide such a wealth of detail that the uniqueness and individuality of each case can be represented. To the charge that naturalistic inquiry, thereby, cannot yield generalizations because of sampling flaws the writers argue that this is necessarily though trivially true. In a word, it is unimportant.

**Stage 4: finding a role and managing entry into the context**

This involves issues of access and permission, establishing a reason for being there, developing a role and a persona, identifying the ‘gatekeepers’ who facilitate entry and access to the group being investigated (see LeCompte and Preissle, 1993: 100 and 111). The issue here is complex, for the researcher will be both a member of the group and yet studying that group, so it is a delicate matter to negotiate a role that will enable the researcher to be both participant and observer. The authors comment (p. 112) that the most important elements in securing access are the willingness of researchers to be flexible and their sensitivity to nuances of behaviour and response in the participants.

A related issue is the timing of the point of entry, so that researchers can commence the research at appropriate junctures (e.g. before the start of a programme, at the start of a programme, during a programme, at the end of a programme, after the end of a programme). The issue goes further than this, for the ethnographer will need to ensure acceptance into the group, which will be a matter of her/his dress, demeanour, persona, age, colour, ethnicity, empathy and identification with the group, language, accent, argot and jargon, willingness to become involved and to take on the group's values and behaviour etc. (see Patrick's (1973) fascinating study of a Glasgow gang).

Lofland (1971) suggests that the field researcher should attempt to adopt the role of the 'acceptable incompetent', balancing intrusion with knowing when to remain apart.

**Stage 5: finding informants**

This involves identifying those people who have the knowledge about the society or group being
The selection and/or relationships with informants is problematical; LeCompte and Preissle (1993: 95), for example, suggest that the first informants that an ethnographer meets might be self-selected people who are marginal to the group, have a low status, and who, therefore, might be seeking to enhance their own prestige by being involved with the research. Indeed Lincoln and Guba (1985: 252) argue that the researcher must be careful to use informants rather than informers, the latter possibly having 'an axe to grind'. Researchers who are working with gatekeepers, they argue, will be engaged in a constant process of bargaining and negotiation.
is no single prescription for which data collection instruments to use; rather, the issue here is of ‘fitness for purpose’ because, as was mentioned earlier, the ethnographer is a methodological omnivore! That said, there are several types of data collection instruments that are used more widely in qualitative research than others. The researcher can use field notes, participant observation, journal notes, interviews, diaries, life histories, artefacts, documents, video recordings, audio recordings etc. Several of these are discussed elsewhere in this book. Lincoln and Guba (1985: 199) distinguish between ‘obtrusive’ (e.g. interviews, observation, non-verbal language) and ‘unobtrusive’ methods (e.g. documents and records), on the basis of whether another human typically is present at the point of data collection.

Field notes can be written both in situ and away from the situation. They contain the results of observations. The nature of observation in ethnographic research is discussed fully in Chapter 17. Accompanying observation techniques is the use of interview techniques, documentary analysis and life histories. These are discussed separately in Chapters 7, 15 and 16. The popularly used interview technique employed in qualitative interviewing is the semi-structured interview, where a schedule is prepared but it is sufficiently open-ended to enable the contents to be re-ordered, digressions and expansions made, new avenues to be included, and further probing to be undertaken. Carspecken (1996: 159–60) describes how such interviews can range from the interviewer giving bland encouragements, ‘non-leading’ leads, active listening and low-inference paraphrasing to medium- and high-inference paraphrasing. In interviews the researcher might wish to explore further some matters arising from the observations. In naturalistic research the canons of validity in interviews include: honesty, depth of response, richness of response, and commitment of the interviewee (Oppenheim, 1992).

Lincoln and Guba (1985: 268–70) propose several purposes for interviewing, including: present constructions of events, feelings, persons, organizations, activities, motivations, concerns, claims, etc.; reconstructions of past experiences; projections into the future; verifying, amending and extending data.

Further, Silverman (1993: 92–3) adds that interviews in qualitative research are useful for: (a) gathering facts; (b) accessing beliefs about facts; (c) identifying feelings and motives; (d) commenting on the standards of actions (what could be done about situations); (e) present or previous behaviour; (f) eliciting reasons and explanations.

Lincoln and Guba (1985) emphasize that the planning of the conduct of the interview is important, including the background preparation, the opening of the interview, its pacing and timing, keeping the conversation going and eliciting knowledge, and rounding off and ending the interview. Clearly, it is important that careful consideration be given to the several stages of the interview. For example at the planning stage of the interview attention will need to be given to the number (per person), duration, timing, frequency, setting/location, number of people in a single interview situation (e.g. individual or group interviews) and respondent styles. (LeCompte and Preissle, 1993: 177). At the implementation stage the conduct of the interview will be important, for example responding to interviewees, prompting, probing, supporting, empathizing, clarifying, crystallizing, exemplifying, summarizing, avoiding censure, accepting. At the analysis stage there will be several important considerations, for example (ibid.: 195): the ease and clarity of communication of meaning; the interest levels of the participants; the clarity of the question and the response; the precision (and communication of this) of the interviewer; how the interviewer handles questionable responses (e.g. fabrications, untruths, claims made).

The qualitative interview tends to move away from the pre-structured, standardized form and toward the open-ended or semi-structured interview (see Chapter 15), as this enables respondents to project their own ways of defining the
world. It permits flexibility rather than fixity of sequence of discussions, and it also enables participants to raise and pursue issues and matters that might not have been included in a predevised schedule (Denzin, 1970; Silverman, 1993).

In addition to interviews, Lincoln and Guba (1985) discuss data collection from non-human sources, including:

1. Documents and records (e.g. archival records, private records). These have the attraction of being always available, often at low cost, and being factual. On the other hand they may be unrepresentative, may be selective, lack objectivity, be of unknown validity, and may possibly be deliberately deceptive (see Finnegan, 1996).

2. Unobtrusive informational residues. These include artefacts, physical traces, and a variety of other records. Whilst they frequently have face validity, and whilst they may be simple and direct, gained by non-interventional means (hence reducing the problems of reactivity), they may also be very heavily inferential, difficult to interpret, and may contain elements whose relevance is questionable.

Stage 8: data collection outside the field

In order to make comparisons and to suggest explanations for phenomena, researchers might find it useful to go beyond the confines of the groups in which they occur. That is this is a thorny issue is indicated in the following example. Two students are arguing very violently and physically in a school. At one level it is simply a fight between two people. However, this is a common occurrence between these two students as they are neighbours outside school and they don’t enjoy positive amicable relations as their families are frequently feuding. The two households have been placed next door to each other by the local authority because the authority has taken a decision to keep together families who are very poor at paying for their local housing rent (i.e. a ‘sink’ estate). The local authority has taken this decision because of a government policy to keep together disadvantaged groups so that targeted action and interventions can be more effective, meeting the needs of whole communities as well as individuals.

The issue here is: how far out of a micro-situation does the researcher need to go to understand this micro-situation? This is an imprecise matter but it is not insignificant in educational research (e.g. it underpinned: (a) the celebrated work by Bowles and Gintis (1976) on schooling in capitalist America, in which the authors suggested that the hidden curricula of schools were preparing students for differential occupational futures that perpetuated an inequalities capitalist system; (b) research on the self-fulfilling prophecy (Hurn, 1978); (c) work by Pollard (1985: 110) on the social world of the primary school, where everyday interactions in school were preparing students for the individualism, competition, achievement orientation, hierarchies and self-reliance that characterize mass private consumption in wider society; (d) Delamont’s (1981) advocacy that educationists should study similar but different institutions to schools (e.g. hospitals and other ‘total’ institutions) in order to make the familiar strange (see also Erickson, 1973).

Stage 9: data analysis

This involves organizing, accounting for, and explaining the data; in short, making sense of the data in terms of the participants’ definitions of the situation, noting patterns, themes, categories and regularities. Typically in qualitative research, data analysis commences during the data collection process. There are several reasons for this, and these are discussed below.

At a practical level, qualitative research rapidly amasses huge amounts of data, and early analysis reduces the problem of data overload by selecting out significant features for future focus. Miles and Huberman (1984) suggest that careful data display is an important element of data reduction and selection. ‘Progressive
focussing', according to Parlett and Hamilton (1976), starts with the researcher taking a wide angle lens to gather data, and then, by sifting, sorting, reviewing and reflecting on them the salient features of the situation emerge. These are then used as the agenda for subsequent focussing. The process is akin to funnelling from the wide to the narrow.

At a theoretical level a major feature of qualitative research is that analysis commences early on in the data collection process so that theory generation can be undertaken (LeCompte and Preissle, 1993: 238). The authors (pp. 237–53) advise that researchers should set out the main outlines of the phenomena that are under investigation. They then should assemble chunks or groups of data, putting them together to make a coherent whole (e.g. through writing summaries of what has been found). Then they should painstakingly take apart their field notes, matching, contrasting, aggregating, comparing and ordering notes made. The intention is to move from description to explanation and theory generation.

Becker and Geer (1960) indicate how this might proceed:

- comparing different groups simultaneously and over time;
- matching the responses given in interviews to observed behaviour;
- an analysis of deviant and negative cases;
- calculating frequencies of occurrences and responses;
- assembling and providing sufficient data that keeps separate raw data from analysis.

For clarity, the process of data analysis can be portrayed in a sequence of seven steps:

**Step 1** Establish units of analysis of the data, indicating how these units are similar to and different from each other.

**Step 2** Create a ‘domain analysis’.

**Step 3** Establish relationships and linkages between the domains.

**Step 4** Making speculative inferences.

**Step 5** Summarizing.

**Step 6** Seeking negative and discrepant cases.

**Step 7** Theory generation.

The following pages address each of these steps.

**Step 1: establish units of analysis of the data, indicating how these units are similar to and different from each other**

The criterion here is that each unit of analysis (category – conceptual, actual, classification element, cluster, issue) should be as discrete as possible whilst retaining fidelity to the integrity of the whole, i.e. that each unit must be a fair rather than a distorted representation of the context and other data. The creation of units of analysis can be done by ascribing codes to the data (Miles and Huberman, 1984). This is akin to the process of ‘unitizing’ (Lincoln and Guba, 1985: 203).

Codes define categories; they are astringent, pulling together a wealth of material into some order and structure. They keep words as words; they maintain context specificity.

At this stage the codes are essentially descriptive and might include (Bogdan and Biklen, 1992: 167–72): situation codes; perspectives held by subjects; ways of thinking about people and objects; process codes; activity codes; event codes; strategy codes; relationship and social structure codes; methods codes. However, to be faithful to the data, the codes themselves derive from the data responsively rather than being created pre-ordinately. Hence the researcher will go through the data ascribing codes to each piece of datum. The code is a word or abbreviation that is sufficiently close to that which it is describing that the researcher can see at a glance what it means (in this respect it is unlike a number). For example, the code ‘trust’ might refer to a person’s trustworthiness; the code ‘power’ might refer to the status or power of the person in the group.

Miles and Huberman advise that codes should be kept as discrete as possible and that coding should start earlier rather than later as late coding enfeebles the analysis. It is possible, they sug-
gest, for as many as ninety codes to be held in the working memory whilst going through data, though clearly, there is a process of iteration and reiteration whereby some codes that are used in the early stages of coding might be modified subsequently and vice versa, necessitating the researcher to go through a data set more than once to ensure consistency, refinement, modification and exhaustiveness of coding (some codes might become redundant, others might need to be broken down into finer codes). By coding up the data the researcher is able to detect frequencies (which codes are occurring most commonly) and patterns (which codes occur together).

Hammersley and Atkinson (1983: 177–8) propose that the first activity here is to read and re-read the data to become thoroughly familiar with them, noting also any interesting patterns, any surprising, puzzling or unexpected features, any apparent inconsistencies or contradictions (e.g. between groups, within and between individuals and groups, between what people say and what they do).

Step 2: create a ‘domain analysis’

This involves grouping the units into domains, clusters, groups, patterns, themes and coherent sets to form domains. A domain is any symbolic category that includes other categories (Spradley, 1979: 100). At this stage it might be useful for the researcher to recode the data into domain codes, or to review the codes used to see how they naturally fall into clusters, perhaps creating overarching codes for each cluster. Hammersley and Atkinson (1983) show how items can be assigned to more than one category, and, indeed, see this as desirable as it maintains the richness of the data. This is akin to the process of ‘categorization’ (Lincoln and Guba, 1985), putting ‘unitized’ data to provide descriptive and inferential information.

Spradley (1979) suggests that establishing domains can be achieved by four analytic tasks: (a) selecting a sample of verbatim interview and field notes; (b) looking for the names of things; (c) identifying possible terms from the sample; (d) searching through additional notes for other items to include. He identifies six steps to achieve these tasks: (i) select a single semantic relationship; (ii) prepare a domain analysis sheet; (iii) select a sample of statements from respondents; (iv) search for possible cover terms and included terms that fit the semantic relationship identified; (v) formulate structural questions for each domain identified; (vi) list all the hypothesized domains. Domain analysis, then, strives to discover relationships between symbols (ibid.: 157).

Step 3: establish relationships and linkages between the domains

This process ensures that the data, their richness and ‘context-groundedness’ are retained. Linkages can be found by identifying confirming cases, by seeking ‘underlying associations’ (LeCompte and Preissle, 1993: 246) and connections between data subsets.

Step 4: making speculative inferences

This is an important stage, for it moves the research from description to inference. It requires the researcher, on the basis of the evidence, to posit some explanations for the situation, some key elements and possibly even their causes. It is the process of hypothesis generation or the setting of working hypotheses that feeds into theory generation.

Step 5: summarizing

By this stage the researcher will be in a position to write a summary of the main features of the situation that have been researched so far. The summary will identify key factors, key issues, key concepts and key areas for subsequent investigation. It is a watershed stage during the data collection, as it pinpoints major themes, issues and problems that have arisen from the data to date (responsively) and suggests avenues for further investigation. The concepts used will have been a combination of those derived from the
data themselves and those inferred by the researcher (Hammersley and Atkinson, 1983: 178).

By this stage the researcher will have gone through the preliminary stages of theory generation. Patton (1980) sets these out for qualitative data:

- finding a focus for the research and analysis;
- organizing, processing, ordering and checking data;
- writing a qualitative description or analysis;
- inductively developing categories, typologies, and labels;
- analysing the categories to identify where further clarification and cross-clarification are needed;
- expressing and typifying these categories through metaphors (see also Pitman and Maxwell, 1992: 747);
- making inferences and speculations about relationships, causes and effects.

Bogdan and Biklen (1992: 154–63) identify several important items that researchers need to address at this stage, including: forcing yourself to take decisions that will focus and narrow the study and decide what kind of study it will be; developing analytical questions; using previous observational data to inform subsequent data collection; writing reflexive notes and memos about observations, ideas, what you are learning; trying out ideas with subjects; analysing relevant literature whilst you are conducting the field research; generating concepts, metaphors and analogies and visual devices to clarify the research.

Step 6: seeking negative and discrepant cases

In theory generation it is important to seek not only confirming cases but to weigh the significance of disconfirming cases. LeCompte and Preissle (1993: 270) suggest that because interpretations of the data are grounded in the data themselves, results that fail to support an original hypothesis are neither discarded nor discredited; rather, it is the hypotheses themselves that must be modified to accommodate these data. Indeed Erickson (1992: 208) identifies progressive problem-solving as one key aspect of ethnographic research and data analysis.

LeCompte and Preissle (1993: 250–1) define a negative case as an exemplar which disconfirms or refutes the working hypothesis, rule or explanation so far. It is the qualitative researcher’s equivalent of the positivist’s null hypothesis. The theory that is being developed becomes more robust if it addresses negative cases, for it sets the boundaries to the theory; it modifies the theory, it sets parameters to the applicability of the theory.

Discrepant cases are not so much exceptions to the rule (as in negative cases) as variants of the rule (ibid.: 251). The discrepant case leads to the modification or elaboration of the construct, rule or emerging hypothesis. Discrepant case analysis requires the researcher to seek out cases for which the rule, construct or explanation cannot account or with which they will not fit, i.e., they are neither exceptions nor contradictions, they are simply different.

Step 7: theory generation

Here the theory derives from the data – it is grounded in the data and emerges from it. As Lincoln and Guba (1985: 205) argue, grounded theory must fit the situation that is being researched. By going through the previous sections, particularly the search for confirming, negative and discrepant cases, the researcher is able to keep a ‘running total’ of these cases for a particular theory. The researcher also generates alternative theories for the phenomena under investigation and performs the same count of confirming, negative and discrepant cases. Lincoln and Guba (ibid.: 253) argue that the theory with the greatest incidence of confirming cases and the lowest incidence of negative and discrepant cases is the most robust.

There are several procedural tools for analysing qualitative data. LeCompte and Preissle (ibid.: 253) see analytic induction, constant comparison, typological analysis and enumeration
PLANNING NATURALISTIC RESEARCH

Chapter 6

Step 1 In the early stages of the research a rough definition and explanation of the particular phenomenon is developed.

Step 2 This definition and explanation is examined in the light of the data that are being collected during the research.

Step 3 If the definition and/or explanation that have been generated need modification in the light of new data (e.g. if the data do not fit the explanation or definition) then this is undertaken.

Step 4 A deliberate attempt is made to find cases that may not fit into the explanation or definition.

Step 5 The process of redefinition and reformulation is repeated until the explanation is reached that embraces all the data, and until a generalized relationship has been established, which will also embrace the negative cases.

Constant comparison, LeCompte and Preissle (1993: 256) opine, combines the elements of inductive category coding (see above) with simultaneously comparing these with the other events and social incidents that have been observed and coded over time and location. This enables social phenomena to be compared across categories, where necessary, giving rise to new dimensions, codes and categories.

Glaser (1978) indicates that constant comparison can proceed from the moment of starting to collect data, to seeking key issues and categories, to discovering recurrent events or activities in the data that become categories of focus, to expanding the range of categories. This process can continue during the writing-up process (which should be continuous), so that a model or explanation of the phenomena can emerge that accounts for fundamental social processes and relationships.

In constant comparison data are compared across a range of situations, times, groups of people, and through a range of methods. The process resonates with the methodological notion of triangulation. Glaser and Strauss (1967: 105–6) suggest that the constant comparison method involves four stages: (1) comparing

(discussed above) as valuable tools for the qualitative researcher to use in analysing data and generating theory.

Analytic induction is a term and process that was introduced by Znaniecki (1934) deliberately in opposition to statistical methods of data analysis. LeCompte and Preissle (1993: 254) suggest that the process is akin to the several steps set out above, in that: (a) data are scanned to generate categories of phenomena; (b) relationships between these categories are sought; (c) working typologies and summaries are written on the basis of the data examined; (d) these are then refined by subsequent cases and analysis; (e) negative and discrepant cases are deliberately sought to modify, enlarge or restrict the original explanation/theory. Denzin (1970: 192) uses the term ‘analytical induction’ to describe the broad strategy of participant observation that is set out below:

- A rough definition of the phenomenon to be explained is formulated.
- A hypothetical explanation of that phenomenon is formulated.
- One case is studied in the light of the hypothesis, with the object of determining whether or not the hypothesis fits the facts in that case.
- If the hypothesis does not fit the facts, either the hypothesis is reformulated or the phenomenon to be explained is redefined, so that the case is excluded.
- Practical certainty may be attained after a small number of cases has been examined, but the discovery of negative cases disproves the explanation and requires a reformulation.
- This procedure of examining cases, redefining the phenomenon, and reformulating the hypothesis is continued until a universal relationship is established, each negative case calling for a redefinition of a reformulation.

A more deliberate seeking of disconfirming cases is advocated by Bogdan and Biklen (1992: 72) where they enumerate five main stages in analytic induction:
incidents and data that are applicable to each category, comparing them with previous incidents in the same category and with other data that are in the same category; (2) integrating these categories and their properties; (3) bounding the theory; (4) setting out the theory.

**Typological analysis** is essentially a classificatory process (LeCompte and Preissle, 1993: 257) wherein data are put into groups, subsets or categories on the basis of some clear criterion (e.g. acts, behaviour, meanings, nature of participation, relationships, settings, activities). It is the process of **secondary coding** (Miles and Huberman, 1984) where descriptive codes are then drawn together and put into subsets. Typologies are a set of phenomena that represent subtypes of a more general set or category (Lofland, 1970). Larsenfeld and Barton (1951) suggest that a typology can be developed in terms of an underlying dimension or key characteristic. In creating typologies Lofland insists that the researcher must: (a) deliberately assemble all the data on how a participant addresses a particular issue – what strategies are being employed; (b) disaggregate and separate out the variations between the ranges of instances of strategies; (c) classify these into sets and subsets; (d) present them in an ordered, named and numbered way for the reader.

Lincoln and Guba (1985: 354–5) urge the researcher to be mindful of several issues in analysing and interpreting the data, including: (a) data overload; (b) the problem of acting on first impressions only; (c) the availability of people and information (e.g. how representative these are and how to know if missing people and data might be important); (d) the dangers of only seeking confirming rather than disconfirming instances; (e) the reliability and consistency of the data and confidence that can be placed in the results.

These are significant issues in addressing reliability, trustworthiness and validity in the research (see the discussions of reliability and validity in Chapter 5). The essence of this approach, that theory emerges from and is grounded in data, is not without its critics. For example, Silverman (1993: 47) suggests that it fails to acknowledge the implicit theories which guide research in its early stages (i.e. data are not theory neutral but theory-saturated) and that it might be strong on providing categorizations without necessarily having explanatory potential. These are caveats that should feed into the process of reflexivity in qualitative research, perhaps.

**Stage 10: leaving the field**

The issue here is how to terminate the research, how to terminate the roles adopted, how (and whether) to terminate the relationships that have built up over the course of the research, and how to disengage from the field in ways that bring as little disruption to the group or situation as possible (LeCompte and Preissle, 1993: 101).

**Stage 11: writing the report**

Delamont (1998) notes the shift in emphasis in much research literature, away from the conduct of the research and towards the **reporting** of the research. It is often the case that the main vehicle for writing naturalistic research is the case study (see Chapter 9), whose ‘trustworthiness’ (Lincoln and Guba, 1985: 189) is defined in terms of credibility, transferability, dependability and confirmability – discussed in Chapter 5. Case studies are useful in that they can provide the thick descriptions that are useful in ethnographic research, and can catch and portray to the reader what it is like to be involved in the situation (ibid.: 214). As the writers comment (p. 359), the case study is the ideal instrument for ‘emic’ inquiry. It also builds in and builds on the tacit knowledge that the writer and reader bring to the report, and, thereby, takes seriously their notion of the ‘human instrument’ in research, indicating the interactions of researcher and participants.

Lincoln and Guba provide several guidelines for writing case studies (ibid.: 365–6):

- the writing should strive to be informal and to capture informality;
as far as possible the writing should report facts except in those sections where interpretation, evaluation and inference are made explicit;

- in drafting the report it is more advisable to opt for over-inclusion rather than under-inclusion;

- the ethical conventions of report writing must be honoured, e.g. anonymity, non-traceability;

- the case study writer should make clear the data that gave rise to the report, so the readers have a means of checking back for reliability and validity and inferences;

- a fixed completion date should be specified.

Spradley suggests nine practical steps that can be followed in writing an ethnography:

**Step 1** Select the audience.
**Step 2** Select the thesis.
**Step 3** Make a list of topics and create an outline of the ethnography.
**Step 4** Write a rough draft of each section of the ethnography.
**Step 5** Revise the outline and create subheadings.
**Step 6** Edit the draft.
**Step 7** Write an introduction and a conclusion.
**Step 8** Re-read the data and report to identify examples.
**Step 9** Write the final version.

Clearly there are several other aspects of case study reporting that need to be addressed. These are set out in Chapter 9.

**Critical ethnography**

An emerging branch of ethnography that resonates with the critical paradigm outlined in Chapter 1 is the field of critical ethnography. Here not only is qualitative, anthropological, participant, observer-based research undertaken, but its theoretical basis lies in critical theory (Quantz, 1992: 448; Carspecken, 1996).

As was outlined in Chapter 1, this paradigm is concerned with the exposure of oppression and inequality in society with a view to emancipating individuals and groups towards collective empowerment. In this respect research is an inherently political enterprise. Carspecken (1996, 4ff.) suggests several key premises of critical ethnography:

- research and thinking are mediated by power relations;
- these power relations are socially and historically located;
- facts and values are inseparable;
- relationships between objects and concepts are fluid and mediated by the social relations of production;
- language is central to perception;
- certain groups in society exert more power than others;
- inequality and oppression are inherent in capitalist relations of production and consumption;
- ideological domination is strongest when oppressed groups see their situation as inevitable, natural or necessary;
- forms of oppression mediate each other and must be considered together (e.g. race, gender, class).

Quantz (1992: 473–4) argues that research is inescapably value-laden in that it serves some interests, and that in critical ethnography the task of researchers is to expose these interests and move participants towards emancipation and freedom. The focus and process of research are thus political at heart, concerning issues of power, domination, voice and empowerment. In critical ethnography the cultures, groups and individuals being studied are located in contexts of power and interests. These contexts have to be exposed, their legitimacy interrogated, and the value base of the research itself exposed. Reflexivity is high in critical ethnography. What separates critical ethnography from other forms of ethnography is that, in the former, questions of legitimacy, power, values in society and domination and oppression are foregrounded.
How does the critical ethnographer proceed?

Carspecken and Apple (1992: 512–14) and Carspecken (1996: 41–2) identify five stages in critical ethnography:

Stage 1: compiling the primary record through the collection of monological data

At this stage the researcher is comparatively passive and unobtrusive – a participant observer. The task here is to acquire objective data and it is ‘monological’ in the sense that it concerns only the researcher writing her own notes to herself. Lincoln and Guba (1985) suggest that validity checks at this stage will include:

- using multiple devices for recording together with multiple observers;
- using a flexible observation schedule in order to minimize biases;
- remaining in the situation for a long time in order to overcome the Hawthorne effect;
- using low-inference terminology and descriptions;
- using peer-debriefing;
- using respondent validation.

Echoing Habermas’s (1979, 1982, 1984) work on validity claims, validity here includes truth (the veracity of the utterance), legitimacy (rightness and appropriateness of the speaker), comprehensibility (that the utterance is comprehensible) and sincerity (of the speaker’s intentions). Carspecken (1996: 104–5) takes this further in suggesting several categories of reference in objective validity: (a) that the act is comprehensible, socially legitimate and appropriate; (b) that the actor has a particular identity and particular intentions or feelings when the action takes place; (c) that objective, contextual factors are acknowledged.

Stage 2: preliminary reconstructive analysis

Reconstructive analysis attempts to uncover the taken-for-granted components of meaning or abstractions that participants have of a situation. Such analysis is intended to identify the value systems, norms, key concepts that are guiding and underpinning situations. Carspecken (ibid.: 42) suggests that the researcher goes back over the primary record from stage one to examine patterns of interaction, power relations, roles, sequences of events, and meanings accorded to situations. He asserts that what distinguishes this stage as ‘reconstructive’ is that cultural themes, social and system factors that are not usually articulated by the participants themselves are, in fact, reconstructed and articulated, making the undiscursive into discourse. In moving to higher level abstractions this stage can utilize high level coding (see the discussion of coding in this chapter).

In critical ethnography Carspecken (ibid.: 141) delineates several ways of ensuring validity at this stage:

- Use interviews and group discussions with the subjects themselves.
- Conduct member checks on the reconstruction in order to equalize power relations.
- Use peer debriefing (a peer is asked to review the data to suggest if the researcher is being too selective, e.g. of individuals, of data, of inference) to check biases or absences in reconstructions.
- Employ prolonged engagement to heighten the researcher’s capacity to assume the insider’s perspective.
- Use ‘strip analysis’ – checking themes and segments of extracted data with the primary data, for consistency.
- Use negative case analysis.

Stage 3: dialogical data collection

Here data are generated by, and discussed with, the participants (Carspecken and Apple, 1992). The authors argue that this is not-naturalistic in that the participants are being asked to reflect on their own situations, circumstances and lives and to begin to theorize about their lives. This is a crucial stage because it enables the participants
to have a voice, to democratize the research. It may be that this stage produces new data that challenge the preceding two stages.

In introducing greater subjectivity by participants into the research at this stage, Carspecken (1996: 164–5) proffers several validity checks, for example: (a) consistency checks on interviews that have been recorded; (b) repeated interviews with participants; (c) matching observation with what participants say is happening or has happened; (d) avoiding leading questions at interview, reinforced by having peer debriefers check on this; (e) respondent validation; (f) asking participants to use their own terms in describing naturalistic contexts, and to explain these terms.

Stage 4: discovering system relations
This stage relates the group being studied to other factors that impinge on that group, for example, local community groups, local sites that produce cultural products. At this stage, Carspecken (ibid.: 202) notes that validity checks will include: (a) maintaining the validity requirements of the earlier stages; (b) seeking a match between the researcher's analysis and the commentaries that are provided by the participants and other researchers; (c) using peer debriefers and respondent validation.

Stage 5: using system relations to explain findings
This stage seeks to examine and explain the findings in light of macro-social theories (ibid.: 202). In part this is a matching exercise, to fit the research findings within a social theory.

In critical ethnography, therefore, the move is from describing a situation, to understanding it, to questioning it, and to changing it. This parallels the stages of ideology critique set out in Chapter 1:

Step 1 A description of the existing situation—a hermeneutic exercise.
Step 2 A penetration of the reasons that brought the situation to the form that it takes.

Step 3 An agenda for altering the situation.
Step 4 An evaluation of the achievement of the new situation.

Computer usage
LeCompte and Preissle (1993) provide a summary of ways in which information technology can be utilized in supporting ethnographic research (see also Tesch, 1990). As can be seen from the list below, the uses of information technology are diverse; as data have to be processed, and as word data are laborious to process, and as several powerful packages for data analysis and processing exist, researchers will find it useful to make full use of computing facilities. These can be used as follows (LeCompte and Preissle, 1993: 280–1):

- To store and check (e.g. proofread) data.
- To collate and segment data and to make numerous copies of data.
- To enable memoing to take place, together with details of the circumstances in which the memos were written.
- To conduct a search for words or phrases in the data and to retrieve text.
- To attach identification labels to units of text, (e.g. questionnaire responses), so that subsequent sorting can be undertaken.
- To partition data into units that have been determined either by the researcher or in response to the natural language itself.
- To enable preliminary coding of data to be undertaken.
- To sort, re-sort, collate, classify and reclassify pieces of data to facilitate constant comparison and to refine schemas of classification.
- To code memos and bring them into the same schema of classification.
- To assemble, re-assemble and recall data into categories.
- To undertake frequency counts (e.g. of words, phrases, codes).
- To cross-check data to see if they can be coded into more than one category, enabling linkages between categories to be discovered.
- To establish the incidence of data that are contained in more than one category.
- To retrieve coded data segments from subsets (e.g. by sex) in order to compare and contrast data.
- To search for pieces of data that appear in a certain (e.g. chronological) sequence.
- To establish linkages between coding categories.
- To display relationships of categories (e.g. hierarchical, temporal, relational, subsumptive, superordinate).
- To quote data in the final report.

Kelle (1995) suggests that computers are particularly effective at coping with the often-encountered problem of data overload and retrieval in qualitative research. Computers, it is argued, enable the researcher to use codes, memos, hypertext systems, selective retrieval, co-occurring codes, and to perform quantitative counts of qualitative data types (see also Seidel and Kelle, 1995). In turn, these authors suggest, this enables linkages of elements to be undertaken, the building of networks, and, ultimately, theory generation to be undertaken. Indeed Lonkila (1995) indicates how computers can assist in the generation of grounded theory through coding, constant comparison, linkages, memoing, use of diagrams, verification and, ultimately, theory building. In this process Kelle and Laurie (1995: 27) suggest that computer-aided methods can enhance: (a) validity (by the management of samples); and (b) reliability (by retrieving all the data on a given topic, thereby ensuring trustworthiness of the data).

A major feature of computer use is in the coding and compilation of data (for example, Kelle 1995: 62–104). Lonkila (1995) identifies several kinds of codes. Open coding generates categories and defines their properties and dimensions. Axial coding works within one category, making connections between subgroups of that category and makes connections between one category and another. This might be in terms of the phenomena that are being studied, the causal conditions that lead to the phenomena, the context of the phenomena and their intervening conditions, and the actions and interactions of, and consequences for, the actors in situations. Selective coding identifies the core categories of text data. Seidel and Kelle (1995) suggest that codes can denote a text, passage, or fact, and can be used to construct data networks.

There are several computer packages for qualitative data (see Kelle, 1995), for example: AQUAD; ATLAS/ti; HyperQuad2; HyperRESEARCH; Hypersoft; Kwaliton; Martin; MAX; WINMAX; NUD.IST; QUALPRO; Textbase Alpha, ETHNOGRAPH, ATLAS.ti, Code-A-Text, Decision Explorer, Diction. Some of these are reviewed by Prein, Kelle and Bird (1995: 190–209).

To conclude this chapter we identify a number of difficulties that arise in the implementation of ethnographic and naturalistic research programmes.

**Some problems with ethnographic and naturalistic approaches**

There are several difficulties in ethnographic and natural approaches. These might affect the reliability and validity of the research, and include:

1. **The definition of the situation** – the participants are being asked for their definition of the situation, yet they have no monopoly on wisdom. They may be ‘falsely conscious’ (unaware of the ‘real’ situation), deliberately distorting or falsifying information, or highly selective. The issues of reliability and validity here are addressed in Chapter 5 (see the discussions of triangulation).

2. **Reactivity** (the Hawthorne effect) – the presence of the researcher alters the situation as participants may wish to avoid, impress, direct, deny, influence the researcher. Again, this is discussed in Chapter 5. Typically the problem of reactivity is addressed by careful negotiation in the field, remaining in the field for a considerable time, ensuring as far as possible a careful presentation of the researcher’s self.
3 The *halo effect* — where existing or given information about the situation or participants might be used to be selective in subsequent data collection, or may bring about a particular reading of a subsequent situation (the research equivalent of the self-fulfilling prophecy). This is an issue of reliability, and can be addressed by the use of a wide, triangulated data base and the assistance of an external observer.

4 The *implicit conservatism* of the interpretive methodology — the kind of research described in this chapter, with the possible exception of critical ethnography, accepts the perspective of the participants and corroborates the status quo. It is focused on the past and the present rather than on the future.

5 There is the difficulty of focusing on the *familiar* — participants (and, maybe researchers too) being so close to the situation that they neglect certain, often tacit, aspects of it. The task, therefore, is to make the familiar strange. Delamont (1981) suggests that this can be done by:
   - studying unusual examples of the same issue (e.g. atypical classroom, timetabling or organizations of schools);
   - studying examples in other cultures;
   - studying other situations that might have a bearing on the situation in hand (e.g. if studying schools it might be useful to look at other similar-but-different organizations, for instance hospitals or prisons);
   - taking a significant issue and focusing on it deliberately, e.g. gendered behaviour.

6 The *open-endedness and diversity* of the situations studied. Hammersley and Atkinson (1983) counsel that the drive towards focusing on specific contexts and situations might overemphasize the difference between contexts and situations rather than their gross similarity, their routine features. Researchers, he argues, should be as aware of regularities as of differences.

7 The neglect of *wider social contexts and constraints*. In studying situations that emphasize how highly context-bound they are, this might neglect broader currents and contexts — micro-level research risks putting boundaries that exclude important macro-level factors. Wider — macro-contexts cannot be ruled out of individual situations.

8 The issue of *generalizability*. If situations are unique and non-generalizable, as many naturalistic principles would suggest, how is the issue of generalizability going to be addressed? To which contexts will the findings apply, and what is the role and nature of replication studies?

9 How to write up *multiple realities* and explanations? How will a representative view be reached? What if the researcher sees things that are not seen by the participants?

10 *Who owns the data, the report, and who has control over the release of the data?*

Naturalistic and ethnographic research, then, are important but problematical research methods in education. Their widespread use signals their increasing acceptance as legitimate and important styles of research.