

Research Methods in Education

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The nature of inquiry - Setting the field

Introduction

This chapter explores the context of educational research. It sets out several foundations on which different kinds of empirical research are constructed:

- scientific and positivistic methodologies
- naturalistic and interpretive methodologies
- methodologies from critical theory
- feminist educational research.

Our analysis takes an important notion from Hirschcock and Hughes (1995: 21) who suggest that ontological assumptions give rise to epistemological assumptions; these, in turn, give rise to methodological considerations; and these, in turn, give rise to issues of instrumentation and data collection. This view moves us beyond regarding research methods as simply a technical exercise and as concerned with understanding the world; this is informed by how we view our world(s), what we take understanding to be, and what we see as the purposes of understanding. The chapter also acknowledges that educational research, politics and decision-making are inextricably intertwined, and it draws attention to the politics of educational research and the implications that this has for undertaking research (e.g. the move towards applied and evaluative research and away from 'pure' research). Finally, we add a note about methodology.

The search for truth

People have long been concerned to come to grips with their environment and to understand the nature of the phenomena it presents to their senses. The means by which they set

out to achieve these ends may be classified into three broad categories: *experience*, *reasoning* and *research* (Mouly 1978). Far from being independent and mutually exclusive, however, these categories must be seen as complementary and overlapping, features most readily in evidence where solutions to complex modern problems are sought.

In our endeavours to come to terms with the problems of day-to-day living, we are heavily dependent upon experience and authority. It must be remembered that as tools for uncovering ultimate truth they have decided limitations. The limitations of personal experience in the form of *common-sense knowing*, for instance, can quickly be exposed when compared with features of the scientific approach to problem-solving. Consider, for example, the striking differences in the way in which theories are used. Laypeople base them on haphazard events and use them in a loose and uncritical manner. When they are required to test them, they do so in a selective fashion, often choosing only that evidence that is consistent with their hunches and ignoring that which is counter to them. Scientists, by contrast, construct their theories carefully and systematically. Whatever hypotheses they formulate have to be tested empirically so that their explanations have a firm basis in fact. And there is the concept of *control* distinguishing the layperson's and the scientist's attitude to experience. Laypeople generally make no attempt to control any extraneous sources of influence when trying to explain an occurrence. Scientists, on the other hand, only too conscious of the multiplicity of causes for a given occurrence, resort to definite techniques and procedures to isolate and test the effect of one or more of the alleged causes. Finally, there is the difference of

attitude to the relationships among phenomena. Laypeople's concerns with such relationships are loose, unsystematic and uncontrolled. The chance occurrence of two events in close proximity is sufficient reason to predicate a causal link between them. Scientists, however, display a much more serious professional concern with relationships and only as a result of rigorous experimentation will they postulate a relationship between two phenomena.

People attempt to comprehend the world around them by using three types of reasoning: deductive reasoning, inductive reasoning and the combined inductive-deductive approach. Deductive reasoning is based on the syllogism which was Aristotle's great contribution to formal logic. In its simplest form the syllogism consists of a major premise based on an a priori or self-evident proposition, a minor premise providing a particular instance, and a conclusion. Thus:

All planets orbit the sun.

The earth is a planet.

Therefore the earth orbits the sun.

The assumption underlying the syllogism is that through a sequence of formal steps of logic, from the general to the particular, a valid conclusion can be deduced from a valid premise. Its chief limitation is that it can handle only certain kinds of statement. The syllogism formed the basis of systematic reasoning from the time of its inception until the Renaissance. Thereafter its effectiveness was diminished because it was no longer related to observation and experience and became merely a mental exercise. One of the consequences of this was that empirical evidence as the basis of proof was superseded by authority and the more authorities one could quote, the stronger one's position became. Naturally, with such abuse of its principal tool, science became sterile.

The history of reasoning was to undergo a dramatic change in the 1600s when Francis Bacon began to lay increasing stress on the observational basis of science. Being critical of the model of deductive reasoning on the grounds that its major premises were often preconceived notions which

inevitably bias the conclusions, he proposed in its place the method of inductive reasoning by means of which the study of a number of individual cases would lead to an hypothesis and eventually to a generalization. Mouly (1978) explains it by suggesting that Bacon's basic premise was that, with sufficient data, even if one does not have a preconceived idea of their significance or meaning, nevertheless important relationships and laws would be discovered by the alert observer. Bacon's major contribution to science was thus that he was able to rescue it from the death-grip of the deductive method whose abuse had brought scientific progress to a standstill. He thus directed the attention of scientists to nature for solutions to people's problems, demanding empirical evidence for verification. Logic and authority in themselves were no longer regarded as conclusive means of proof and instead became sources of hypotheses about the world and its phenomena.

Bacon's inductive method was eventually followed by the inductive-deductive approach which combines Aristotelian deduction with Baconian induction. Here the researcher is involved in a back-and-forth process of induction (from observation to hypothesis) and deduction (from hypothesis to implications) (Mouly 1978). Hypotheses are tested rigorously and, if necessary, revised.

Although both deduction and induction have their weaknesses, their contributions to the development of science are enormous and fall into three categories:

- the suggestion of hypotheses
- the logical development of these hypotheses
- the clarification and interpretation of scientific findings and their synthesis into a conceptual framework.

A further means by which we set out to discover truth is research. This has been defined by Kerlinger (1970) as the systematic, controlled, empirical and critical investigation of hypothetical propositions about the presumed relations among natural phenomena. Research has three characteristics in

particular which distinguish it from the first means of problem-solving identified earlier, namely, experience. First, whereas experience deals with events occurring in a haphazard manner, research is systematic and controlled, basing its operations on the inductive-deductive model outlined above. Second, research is empirical. The scientist turns to experience for validation. As Kerlinger (1970) puts it, subjective, personal belief has to have a reality check against objective, empirical facts and tests. And third, research is self-correcting. Not only does the scientific method have built-in mechanisms to protect scientists from error as far as is humanly possible, but also their procedures and results are open to public scrutiny by fellow professionals. Incorrect results in time will be found and either revised or discarded (Mouly 1978). Research is a combination of both experience and reasoning and must be regarded as the most successful approach to the discovery of truth, particularly as far as the natural sciences are concerned (Borg 1963).¹

Educational research has absorbed several competing views of the social sciences – the established, traditional view and an interpretive view, and several others that we explore in this chapter – critical theory, feminist theory and complexity theory. The established, traditional view holds that the social sciences are essentially the same as the natural sciences and are therefore concerned with discovering natural and universal laws regulating and determining individual and social behaviour; the interpretive view, however, while sharing the rigour of the natural sciences and the same concern of traditional social science to describe and explain human behaviour, emphasizes how people differ from inanimate natural phenomena and, indeed, from each other. These contending views – and also their corresponding reflections in educational research – stem in the first instance from different conceptions of social reality and of individual and social behaviour. It will help our understanding of the issues to be developed subsequently if we examine these in a little more detail (see <http://www.routledge.com/textbooks/9780415368780> – Chapter 1, file 1.1, ppt).

Two conceptions of social reality

The views of social science that we have just identified represent strikingly different ways of looking at social reality and are constructed on correspondingly different ways of interpreting it. We can perhaps most profitably approach these conceptions of the social world by examining the explicit and implicit assumptions underpinning them. Our analysis is based on the work of Burrell and Morgan (1979), who identified four sets of such assumptions.

First, there are assumptions of an ontological kind – assumptions which concern the very nature or essence of the social phenomena being investigated. Thus, the authors ask, is social reality external to individuals – imposing itself on their consciousness from without – or is it the product of individual consciousness? Is reality of an objective nature, or the result of individual cognition? Is it a given 'out there' in the world, or is it created by one's own mind? These questions spring directly from what philosophy terms the nominalist–realist debate. The former view holds that objects of thought are merely words and that there is no independently accessible thing constituting the meaning of a word. The realist position, however, contends that objects have an independent existence and are not dependent for it on the knower.

The second set of assumptions identified by Burrell and Morgan (1979) are of an epistemological kind. These concern the very bases of knowledge – its nature and forms, how it can be acquired, and how communicated to other human beings. How one aligns oneself in this particular debate profoundly affects how one will go about uncovering knowledge of social behaviour. The view that knowledge is hard, objective and tangible will demand of researchers an observer role, together with an allegiance to the methods of natural sciences; to see knowledge as personal, subjective and unique, however, imposes on researchers an involvement with their subjects and a rejection of the ways of the natural scientist. To subscribe to the former is to be positivist; to the latter, anti-positivist.

The third set of assumptions concern human nature and, in particular, the relationship between human beings and their environment. Since the human being is both its subject and object of study, the consequences for social science of assumptions of this kind are indeed far-reaching. Two images of human beings emerge from such assumptions – the one portrays them as responding mechanically and deterministically to their environment, i.e. as products of the environment, controlled like puppets; the other, as initiators of their own actions with free will and creativity, producing their own environments. The difference is between *determinism* and *voluntarism* respectively (Burrell and Morgan 1979).

It would follow from what we have said so far that the three sets of assumptions identified above have direct implications for the methodological concerns of researchers, since the contrasting ontologies, epistemologies and models of human beings will in turn demand different research methods. Investigators adopting an objectivist (or positivist) approach to the social world and who treat it like the world of natural phenomena as being hard, real and external to the individual will choose from a range of traditional options – surveys, experiments, and the like. Others favouring the more subjectivist (or anti-positivist) approach and who view the social world as being of a much softer, personal and humanly created kind will select from a comparable range of recent and emerging techniques – accounts, participant observation and personal constructs, for example.

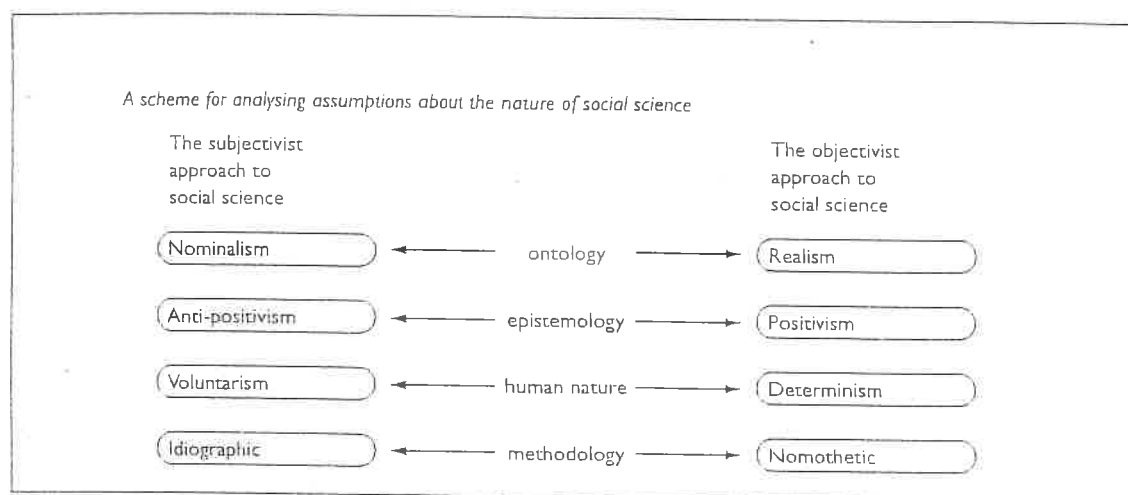
Where one subscribes to the view that treats the social world like the natural world – as if it were a hard, external and objective reality – then scientific investigation will be directed at analysing the relationships and regularities between selected factors in that world. It will be predominantly quantitative and will be concerned with identifying and defining elements and discovering ways in which their relationships can be expressed. Hence, they argue, methodological issues, of fundamental importance, are thus the concepts themselves, their measurement and the identification of

underlying themes in a search for universal laws that explain and govern that which is being observed (Burrell and Morgan 1979). An approach characterized by procedures and methods designed to discover general laws may be referred to as *nomothetic*.

However, if one favours the alternative view of social reality which stresses the importance of the subjective experience of individuals in the creation of the social world, then the search for understanding focuses upon different issues and approaches them in different ways. The principal concern is with an understanding of the way in which the individual creates, modifies and interprets the world in which he or she finds himself or herself. The approach now takes on a qualitative as well as quantitative aspect. As Burrell and Morgan (1979) and Kirk and Miller (1986: 14) observe, emphasis here is placed on explanation and understanding of the unique and the particular individual case rather than the general and the universal; the interest is in a subjective, relativistic social world rather than an absolutist, external reality. In its emphasis on the particular and individual this approach to understanding individual behaviour may be termed *idiographic*.

In this review of Burrell and Morgan's analysis of the ontological, epistemological, human and methodological assumptions underlying two ways of conceiving social reality, we have laid the foundations for a more extended study of the two contrasting perspectives evident in the practices of researchers investigating human behaviour and, by adoption, educational problems. Box 1.1 summarizes these assumptions along a subjective-objective dimension. It identifies the four sets of assumptions by using terms we have adopted in the text and by which they are known in the literature of social philosophy.

Each of the two perspectives on the study of human behaviour outlined above has profound implications for research in classrooms and schools. The choice of problem, the formulation of questions to be answered, the characterization of pupils and teachers, methodological concerns, the kinds of data sought and their mode of treatment,

Box 1.1**The subjective-objective dimension**

Source: Burrell and Morgan 1979

all are influenced by the viewpoint held. Some idea of the considerable practical implications of the contrasting views can be gained by examining Box 1.2 which compares them with respect to a number of critical issues within a broadly societal and organizational framework. Implications of the two perspectives for research into classrooms and schools will unfold in the course of the text.

Because of its significance for the epistemological basis of social science and its consequences for educational research, we devote much discussion in this chapter to the positivist and anti-positivist debate.

Positivism

Although positivism has been a recurrent theme in the history of western thought from the Ancient Greeks to the present day, it is historically associated with the nineteenth-century French philosopher, Auguste Comte, who was the first thinker to use the word for a philosophical position (Beck 1979). His positivism turns to observation and reason as means of understanding behaviour; explanation proceeds by way of scientific description. In

his study of the history of the philosophy and methodology of science, Oldroyd (1986) says:

It was Comte who consciously 'invented' the new science of society and gave it the name to which we are accustomed. ... For social phenomena were to be viewed in the light of physiological (or biological) laws and theories and investigated empirically, just like physical phenomena.

(Oldroyd 1986)

Comte's position was to lead to a general doctrine of positivism which held that all genuine knowledge is based on sense experience and can be advanced only by means of observation and experiment. Following in the empiricist tradition, a limited inquiry and belief to what can be firmly established and in thus abandoning metaphysical and speculative attempts to gain knowledge by reason alone, the movement developed what has been described as a 'rough-minded orientation to facts and natural phenomena' (Beck 1979).

Although the term positivism is used by philosophers and social scientists, a residual meaning is always present and this derives from an acceptance of natural science as the paradigm of human knowledge (Duncan 1968). This includes

Box 1.2

Alternative bases for interpreting social reality

<i>Dimensions of comparison</i>	<i>Conceptions of social reality</i>	
	<i>Objectivist</i>	<i>Subjectivist</i>
Philosophical basis	Realism: the world exists and is knowable as it really is. Organizations are real entities with a life of their own.	Idealism: the world exists but different people construe it in very different ways. Organizations are invented social reality.
The role of social science	Discovering the universal laws of society and human conduct within it.	Discovering how different people interpret the world in which they live.
Basic units of social reality	The collectivity: society or organizations.	Individuals acting singly or together.
Methods of understanding	Identifying conditions or relationships which permit the collectivity to exist. Conceiving what these conditions and relationships are.	Interpretation of the subjective meanings which individuals place upon their action. Discovering the subjective rules for such action.
Theory	A rational edifice built by scientists to explain human behaviour.	Sets of meanings which people use to make sense of their world and behaviour within it.
Research	Experimental or quasi-experimental validation of theory.	The search for meaningful relationships and the discovery of their consequences for action.
Methodology	Abstraction of reality, especially through mathematical models and quantitative analysis.	The representation of reality for purposes of comparison. Analysis of language and meaning.
Society	Ordered. Governed by a uniform set of values and made possible only by those values.	Conflicted. Governed by the values of people with access to power.
Organizations	Goal oriented. Independent of people. Instruments of order in society serving both society and the individual.	Dependent upon people and their goals. Instruments of power which some people control and can use to attain ends which seem good to them.
Organizational pathologies	Organizations get out of kilter with social values and individual needs.	Given diverse human ends, there is always conflict among people acting to pursue them.
Prescription for change	Change the structure of the organization to meet social values and individual needs.	Find out what values are embodied in organizational action and whose they are. Change the people or change their values if you can.

Source: adapted from Barr Greenfield 1975.

the following connected suppositions, identified by Giddens (1975). First, the methodological procedures of natural science may be directly applied to the social sciences. Positivism here implies a particular stance concerning the social scientist as an observer of social reality. Second, the end-product of investigations by social

scientists can be formulated in terms parallel to those of natural science. This means that their analyses must be expressed in laws or law-like generalizations of the same kind that have been established in relation to natural phenomena. Positivism here involve a definite view of social scientist or analyst or interpreters of their subject

matter, Positivism claims that science provides us with the clearest possible ideal of knowledge.

Where positivism is less successful, however, is in its application to the study of human behaviour where the immense complexity of human nature and the elusive and intangible quality of social phenomena contrast strikingly with the order and regularity of the natural world. This point is nowhere more apparent than in the contexts of classroom and school where the problems of teaching, learning and human interaction present the positivistic researcher with a mammoth challenge (see <http://www.routledge.com/textbooks/9780415368780> – Chapter 1, file 1.2. ppt).

For further information on positivism within the history of the philosophy and methodology of science, see Oldroyd (1986). We now look more closely at some of its features.

The assumptions and nature of science

We begin with an examination of the tenets of scientific faith: the kinds of assumptions held by scientists, often-implicitly, as they go about their daily work. First, there is the assumption of *determinism*. This means simply that events have causes, that events are determined by other circumstances; and science proceeds on the belief that these causal links can eventually be uncovered and understood, that the events are explicable in terms of their antecedents. Moreover, not only are events in the natural world determined by other circumstances, but also there is regularity about the way they are determined: the universe does not behave capriciously. It is the ultimate aim of scientists to formulate laws to account for the happenings in the world, thus giving them a firm basis for prediction and control.

The second assumption is that of *empiricism*. We have already touched upon this viewpoint, which holds that certain kinds of reliable knowledge can only derive from experience. In practice, this means scientifically that the tenability of a theory or hypothesis depends on the nature of the empirical evidence for its support. Empirical here means that which is verifiable by observation and

direct experience (Barratt 1971); and evidence, data yielding proof or strong confirmation, in probability terms, of a theory or hypothesis in a research setting.

Mouly (1978) identifies five steps in the process of empirical science:

- 1 *experience*: the starting point of scientific endeavour at the most elementary level
- 2 *classification*: the formal systematization of otherwise incomprehensible masses of data
- 3 *quantification*: a more sophisticated stage where precision of measurement allows more adequate analysis of phenomena by mathematical means
- 4 *discovery of relationships*: the identification and classification of functional relationships among phenomena
- 5 *approximation to the truth*: science proceeds by gradual approximation to the truth.

The third assumption underlying the work of the scientist is the principle of *parsimony*. The basic idea is that phenomena should be explained in the most economical way possible, as Einstein was known to remark – one should make matters as simple as possible, but no simpler! The first historical statement of the principle was by William of Occam when he said that explanatory principles (entities) should not be needlessly multiplied. It may, of course, be interpreted in various ways: that it is preferable to account for a phenomenon by two concepts rather than three; that a simple theory is to be preferred to a complex one.

The final assumption, that of *generality*, played an important part in both the deductive and inductive methods of reasoning. Indeed, historically speaking, it was the problematic relationship between the concrete particular and the abstract general that was to result in two competing theories of knowledge – the rational and the empirical. Beginning with observations of the particular, scientists set out to generalize their findings to the world at large. This is so because they are concerned ultimately with explanation. Of course, the concept of generality presents much less of a problem to natural scientists working

chiefly with inanimate matter than to human scientists who, of necessity having to deal with samples of larger human populations, have to exercise great caution when generalizing their findings to the particular parent populations.

We come now to the core question: What is science? Kerlinger (1970) points out that in the scientific world itself two broad views of science may be found: the *static* and the *dynamic*. The *static* view, which has particular appeal for laypeople, is that science is an activity that contributes systematized information to the world. The work of the scientist is to uncover new facts and add them to the existing corpus of knowledge. Science is thus seen as an accumulated body of findings, the emphasis being chiefly on the present state of knowledge and adding to it.² The *dynamic* view, by contrast, conceives science more as an activity, as something that scientists *do*. According to this conception it is important to have an accumulated body of knowledge of course, but what really matter most are the discoveries that scientists make. The emphasis here, then, is more on the heuristic nature of science.

Contrasting views exist on the functions of science. We give a composite summary of these in Box 1.3. For the professional scientists, however, science is seen as a way of comprehending the world; as a means of explanation and understanding, of prediction and control. For them the ultimate aim of science is theory.

Theory has been defined by Kerlinger as 'a set of interrelated constructs [concepts], definitions, and propositions that presents a systematic view of phenomena by specifying relations among variables, with the purpose of explaining and predicting the phenomena' (Kerlinger 1970). In a sense, theory gathers together all the isolated bits of empirical data into a coherent conceptual framework of wider applicability. More than this, however, theory is itself a potential source of further information and discoveries. It is in this way a source of new hypotheses and hitherto unasked questions; it identifies critical areas for further investigation; it discloses gaps in our knowledge; and enables a researcher to postulate the existence of previously unknown phenomena.

Box 1.3

The functions of science

- 1 Its problem-seeking, question-asking, hunch-encouraging, hypotheses-producing function.
- 2 Its testing, checking, certifying function; its trying out and testing of hypotheses; its repetition and checking of experiments; its piling up of facts.
- 3 Its organizing, theorizing, structuring function; its search for larger and larger generalizations.
- 4 Its history-collecting, scholarly function.
- 5 Its technological side; instruments, methods, techniques.
- 6 Its administrative, executive and organizational side.
- 7 Its publicizing and educational functions.
- 8 Its applications to human use.
- 9 Its appreciation, enjoyment, celebration and glorification.

Source: Maslow 1954

Clearly there are several different types of theory, and each type of theory defines its own kinds of 'proof'. For example, Morrison (1995a) identifies *empirical theories*, *'grand' theories* and *'critical' theory*. Empirical theories and critical theories are discussed below. 'Grand theory' is a metanarrative, defining an area of study, being speculative, clarifying conceptual structures and frameworks, and creatively enlarging the way we consider behaviour and organizations (Layder 1994). It uses fundamental ontological and epistemological postulates which serve to define a field of inquiry (Hughes 1976). Here empirical material tends to be used by way of illustration rather than 'proof'. This is the stuff of some sociological theories, for example Marxism, consensus theory and functionalism. While sociologists may be excited by the totalizing and all-encompassing nature of such theories, they have been subject to considerable undermining. For example, Merton (1949), Coser and Rosenberg (1969), Doll (1993) and Layder (1994) contend that while they might possess the attraction of large philosophical systems of considerable – Byzantine – architectonic splendour and logical consistency, nevertheless they are scientifically sterile, irrelevant and out of touch with a world that is characterized by openness, fluidity,

heterogeneity and fragmentation. This book does not endeavour to refer to this type of theory.

The status of theory varies quite considerably according to the discipline or area of knowledge in question. Some theories, as in the natural sciences, are characterized by a high degree of elegance and sophistication; others, perhaps like educational theory, are only at the early stages of formulation and are thus characterized by great unevenness. Popper (1968), Lakatos (1970),³ Mouly (1978), Laudan (1990) and Rasmussen (1990) identify the following characteristics of an effective empirical theory:

- A theoretical system must permit deductions and generate laws that can be tested empirically; that is, it must provide the means for its confirmation or rejection. One can test the validity of a theory only through the validity of the propositions (hypotheses) that can be derived from it. If repeated attempts to disconfirm its various hypotheses fail, then greater confidence can be placed in its validity. This can go on indefinitely, until possibly some hypothesis proves untenable. This would constitute indirect evidence of the inadequacy of the theory and could lead to its rejection (or more commonly to its replacement by a more adequate theory that can incorporate the exception).
- Theory must be compatible with both observation and previously validated theories. It must be grounded in empirical data that have been verified and must rest on sound postulates and hypotheses. The better the theory, the more adequately it can explain the phenomena under consideration, and the more facts it can incorporate into a meaningful structure of ever-greater generalizability. There should be internal consistency between these facts. It should clarify the precise terms in which it seeks to explain, predict and generalize about empirical phenomena.
- Theories must be stated in simple terms, that theory is best that explains the most in the simplest way. This is the law of parsimony. A theory must explain the data adequately

and yet must not be so comprehensive as to be unwieldy. On the other hand, it must not overlook variables simply because they are difficult to explain.

- A theory should have considerable explanatory and predictive potential.
- A theory should be able to respond to observed anomalies.
- A theory should spawn a research enterprise (echoing Siegel's (1987) comment that one of the characteristics of an effective theory is its fertility).
- A theory should demonstrate precision and universality, and set the grounds for its own falsification and verification, identifying the nature and operation of a 'severe test' (Popper 1968). An effective empirical theory is tested in contexts which are different from those that gave rise to the theory, i.e. they should move beyond simply corroboration and induction and towards 'testing' (Laudan 1990). It should identify the type of evidence which is required to confirm or refute the theory.
- A theory must be operationalizable precisely.
- A test of the theory must be replicable.

Sometimes the word *model* is used instead of, or interchangeably with, *theory*. Both may be seen as explanatory devices or schemes having a broadly conceptual framework, though models are often characterized by the use of analogies to give a more graphic or visual representation of a particular phenomenon. Providing they are accurate and do not misrepresent the facts, models can be of great help in achieving clarity and focusing on key issues in the nature of phenomena.

Hitchcock and Hughes (1995) draw together the strands of the discussion so far when they describe theory thus:

Theory is seen as being concerned with the development of systematic construction of knowledge of the social world. In doing this, theory employs the use of concepts, systems, models, structures, beliefs and ideas, hypotheses (theoretical) in order to make statements about particular types of action, event or activities, so as to make analyses of their cause, consequence and process. That is, to explain

events in ways which are consistent with a particular philosophical rationale or, for example, a particular sociological or psychological perspective. Theories therefore aim to both propose and analyze sets of relations existing between a number of variables when certain regularities and continuities can be demonstrated via empirical enquiry.

(Hitchcock and Hughes 1995: 20-1)

Scientific theories must, by their very nature, be provisional. A theory can never be complete in the sense that it encompasses all that can be known or understood about the given phenomenon. As Mouly (1978) argues, one scientific theory is replaced by a superior, more sophisticated theory, as new knowledge is acquired.

In referring to theory and models, we have begun to touch upon the tools used by scientists in their work. We look now in more detail at two such tools which play a crucial role in science – the concept and the hypothesis.

The tools of science

Concepts express generalizations from particulars – anger, achievement, alienation, velocity, intelligence, democracy. Examining these examples more closely, we see that each is a word representing an idea: more accurately, a concept is the relationship between the word (or symbol) and an idea or conception. Whoever we are and whatever we do, we all make use of concepts. Naturally, some are shared and used by all groups of people within the same culture – child, love, justice, for example; others, however, have a restricted currency and are used only by certain groups, specialists, or members of professions – idiosyncrasy, retroactive inhibition, anticipatory socialization.

Concepts enable us to impose some sort of meaning on the world; through them reality is given sense, order and coherence. They are the means by which we are able to come to terms with our experience. How we perceive the world, then, is highly dependent on the repertoire of concepts we can command. The more we have, the more sense data we can pick up and the surer will be our perceptual (and cognitive) grasp of

whatever is 'out there'. If our perceptions of the world are determined by the concepts available to us, it follows that people with differing sets of concepts will tend to view the 'same' objective reality differently – a doctor diagnosing an illness will draw upon a vastly different range of concepts from, say, the restricted and simplistic notions of the layperson in that context.

So, you may ask, where is all this leading? Simply to this: that social scientists have likewise developed, or appropriated by giving precise meaning to, a set of concepts which enable them to shape their perceptions of the world in a particular way, to represent that slice of reality which is their special study. And collectively, these concepts form part of their wider meaning system which permits them to give accounts of that reality, accounts which are rooted and validated in the direct experience of everyday life. These points may be exemplified by the concept of social class. Hughes (1976) says that it offers

a rule, a grid, even though vague at times, to use in talking about certain sorts of experience that have to do with economic position, life-style, life-chances, and so on. It serves to identify aspects of experience, and by relating the concept to other concepts we are able to construct theories about experience in a particular order or sphere.

(Hughes 1976: 34)

There are two important points to stress when considering scientific concepts. The first is that they do not exist independently of us: they are indeed our inventions enabling us to acquire some understanding at least of the apparent chaos of nature. The second is that they are limited in number and in this way contrast with the infinite number of phenomena they are required to explain.

A second tool of great importance to the scientist is the *hypothesis*. It is from this that much research proceeds, especially where cause-and-effect or concomitant relationships are being investigated. The hypothesis has been defined by Kerlinger (1970) as a conjectural statement of the relations between two or more variables, or 'an educated guess', though it is unlike

an educated guess in that it is often the result of considerable study, reflective thinking and observation. Medawar (1972) writes of the hypothesis and its function thus:

All advances of scientific understanding, at every level, begin with a speculative adventure, an imaginative preconception of *what might be true* – a preconception which always, and necessarily, goes a little way (sometimes a long way) beyond anything which we have logical or factual authority to believe in. It is the invention of a possible world, or of a tiny fraction of that world. The conjecture is then exposed to criticism to find out whether or not that imagined world is anything like the real one. Scientific reasoning is therefore at all levels an interaction between two episodes of thought – a dialogue between two voices, the one imaginative and the other critical; a dialogue, if you like, between the possible and the actual, between proposal and disposal, conjecture and criticism, between what might be true and what is in fact the case.

(Medawar 1972)

Kerlinger (1970) has identified two criteria for 'good' hypotheses. The first is that hypotheses are statements about the relations between variables; and second, that hypotheses carry clear implications for testing the stated relations. To these he adds two ancillary criteria: that hypotheses disclose compatibility with current knowledge; and that they are expressed as economically as possible. Thus if we conjecture that social class background determines academic achievement, we have a relationship between one variable, social class, and another, academic achievement. And since both can be measured, the primary criteria specified by Kerlinger can be met. Neither do they violate the ancillary criteria proposed by Kerlinger (see also Box 1.4).

He further identifies four reasons for the importance of hypotheses as tools of research. First, they organize the efforts of researchers. The relationship expressed in the hypothesis indicates what they should do. They enable them to understand the problem with greater clarity and provide them with a framework for collecting, analysing and interpreting their data.

Box 1.4

The hypothesis

Once one has a hypothesis to work on, the scientist can move forward: the hypothesis will guide the researcher on the selection of some observations rather than others and will suggest experiments. Scientists soon learn by experience the characteristics of a good hypothesis. A hypothesis that is so loose as to accommodate any phenomenon tells us precisely nothing; the more phenomena it prohibits, the more informative it is.

A good hypothesis must also have logical immediacy, i.e. it must provide an explanation of whatever it is that needs to be explained and not an explanation of other phenomena. Logical immediacy in a hypothesis means that it can be tested by comparatively direct and practicable means. A large part of the art of the soluble is the art of devising hypotheses that can be tested by practicable experiments.

Source: adapted from Medawar 1981

Second, they are, in Kerlinger's words, the working instruments of theory. They can be deduced from theory or from other hypotheses. Third, they can be tested, empirically or experimentally, thus resulting in confirmation or rejection; and there is always the possibility that a hypothesis, once supported and established, may become a law. Fourth, hypotheses are powerful tools for the advancement of knowledge because, as Kerlinger (1970) explains, they enable us to get outside ourselves. Hypotheses and concepts play a crucial part in the scientific method and it is to this that we now turn our attention.

The scientific method

If the most distinctive feature of science is its empirical nature, the next most important characteristic is its set of procedures which show not only how findings have been arrived at, but are sufficiently clear for fellow-scientists to repeat them, or to check them out with the same or other materials and thereby test the results. As Cuff and Payne (1979) say: 'A scientific approach necessarily involves grounded and procedures for demonstrating the empirical

warrant" of its findings, showing the match or fit between its statements and what is happening or has happened in the world' (Cuff and Payne 1979: 4). 'These standards and procedures we will call for convenience 'the scientific method', though this can be somewhat misleading for the following reason: the combination of the definite article, adjective and singular noun conjures up in the minds of some people a single invariant approach to problem-solving, an approach frequently involving atoms or rats, and taking place within the confines of a laboratory. Yet there is much more to it than this. The term in fact cloaks a number of methods which vary in their degree of sophistication depending on their function and the particular stage of development a science has reached. Box 1.5 sets out the sequence of stages through which a science normally passes in its development or, perhaps more realistically, that are constantly present in its progress and on which scientists may draw depending on the kind of information they seek or the kind of problem confronting them. Of particular interest in our efforts to elucidate the term 'scientific method' are stages 2, 3 and 4. Stage 2 is a relatively uncomplicated point at which the researcher is content to observe and record facts and possibly arrive at some system of classification. Much research in the field of education, especially at classroom and school level, is conducted in this way, e.g. surveys and case studies. Stage 3 introduces a note of added sophistication as attempts are made to establish relationships between variables within a loose framework of inchoate theory. Stage 4 is the most sophisticated stage and often the one that many people equate exclusively with the scientific method. In order to arrive at causality, as distinct from mere measures of association, researchers here design experimental situations in which variables are manipulated to test their chosen hypotheses. This process moves from early, inchoate ideas, to more rigorous hypotheses, to empirical testing of those hypotheses, thence to confirmation or modification of the hypotheses (Kerlinger 1970).

With stages 3 and 4 of Box 1.5 in mind, we may say that the scientific method begins

Box 1.5

Stages in the development of a science

- 1 Definition of the science and identification of the phenomena that are to be subsumed under it.
- 2 Observational stage at which the relevant factors, variables or items are identified and labelled, and at which categories and taxonomies are developed.
- 3 Correlational research in which variables and parameters are related to one another and information is systematically integrated as theories begin to develop.
- 4 The systematic and controlled manipulation of variables to see if experiments will produce expected results, thus moving from correlation to causality.
- 5 The firm establishment of a body of theory as the outcomes of the earlier stages are accumulated. Depending on the nature of the phenomena under scrutiny, laws may be formulated and systematized.
- 6 The use of the established body of theory in the resolution of problems or as a source of further hypotheses.

consciously and deliberately by selecting from the total number of elements in a given situation. More recently Hitchcock and Hughes (1995: 23) suggest an eight-stage model of the scientific method that echoes Kerlinger. This is represented in Box 1.6.

The elements the researchers fasten on to will naturally be suitable for scientific formulation; this means simply that they will possess quantitative

Box 1.6

An eight-stage model of the scientific method

- Stage 1: Hypotheses, hunches and guesses
- Stage 2: Experiment designed; samples taken; variables isolated
- Stage 3: Correlations observed; patterns identified
- Stage 4: Hypotheses formed to explain regularities
- Stage 5: Explanations and predictions tested; falsifiability
- Stage 6: Laws developed or disconfirmation (hypothesis rejected)
- Stage 7: Generalizations made
- Stage 8: New theories.

aspects. Their principal working tool will be the hypothesis which, as we have seen, is a statement indicating a relationship (or its absence) between two or more of the chosen elements and stated in such a way as to carry clear implications for testing. Researchers then choose the most appropriate method and put their hypotheses to the test.

Criticisms of positivism and the scientific method

In spite of the scientific enterprise's proven success using positivism – especially in the field of natural science – its ontological and epistemological bases have been the focus of sustained and sometimes vehement criticism from some quarters. Beginning in the second half of the nineteenth century, the revolt against positivism occurred on a broad front, attracting some of the best intellectuals in Europe – philosophers, scientists, social critics and creative artists. Essentially, it has been a reaction against the world picture projected by science which, it is contended, undermines life and mind. The precise target of the anti-positivists' attack has been science's mechanistic and reductionist view of nature which, by definition, defines life in measurable terms rather than inner experience, and excludes notions of choice, freedom, individuality, and moral responsibility, regarding the universe as a living organism rather than as a machine (e.g. Nesfield-Cookson 1987).

Another challenge to the claims of positivism came from Søren Kierkegaard, the Danish philosopher, one of the originators of existentialism. Kierkegaard was concerned with individuals and their need to fulfil themselves to the highest level of development. This realization of a person's potential was for him the meaning of existence which he saw as 'concrete and individual, unique and irreducible, not amenable to conceptualization' (Beck 1979). Characteristic features of the age in which we live – democracy's trust in the crowd mentality, the ascendancy of reason, scientific and technological progress – all militate against the achievement of this end and contribute to the dehumanization of the individual. In his desire to free people from

their illusions, the illusion Kierkegaard was most concerned about was that of objectivity. By this he meant the imposition of rules of behaviour and thought, and the making of a person into an observer set on discovering general laws governing human behaviour. The capacity for subjectivity, he argued, should be regained. This he regarded as the ability to consider one's own relationship to whatever constitutes the focus of inquiry. The contrast he made between objectivity and subjectivity is brought out in the following passage:

When the question of truth is raised in an objective manner, reflection is directed objectively to the truth as an object to which the knower is related. Reflection is not focused on the relationship, however, but upon the question of whether it is the truth to which the knower is related. If only the object to which he is related is the truth, the subject is accounted to be in the truth. When the question of truth is raised subjectively, reflection is directed subjectively to the nature of the individual's relationship; if only the mode of this relationship is in the truth, the individual is in the truth, even if he should happen to be thus related to what is not true.

(Kierkegaard 1974: 178)

For Kierkegaard, 'subjectivity and concreteness of truth are together the light. Anyone who is committed to science, or to rule-governed morality, is benighted, and needs to be rescued from his state of darkness' (Warnock 1970).

Also concerned with the dehumanizing effects of the social sciences is Ions (1977). While acknowledging that they can take much credit for throwing light in dark corners, he expresses serious concern at the way in which quantification and computation, assisted by statistical theory and method, are used. He argues that quantification is a form of collectivism, but that this runs the risk of depersonalization. His objection is not directed at quantification *per se*, but at quantification when it becomes an end in itself – 'a branch of mathematics rather than a humane study seeking to explore and elucidate the gritty circumstances of the human condition' (Ions 1977). This echoes Horkheimer's (1972) powerful

critique of positivism as the mathematization of concepts about nature.

Another forceful critic of the objective consciousness has been Roszak (1970; 1972), who argues that science, in its pursuit of objectivity, is a form of alienation from our true selves and from nature. The justification for any intellectual activity lies in the effect it has on increasing our awareness and degree of consciousness. This increase, some claim, has been retarded in our time by the excessive influence that the positivist paradigm has exerted on areas of our intellectual life. Holbrook (1977), for example, affording consciousness a central position in human existence and deeply concerned with what happens to it, condemns positivism and empiricism for their bankruptcy of the inner world, morality and subjectivity.

Hampden-Turner (1970) concludes that the social science view of human beings is biased in that it is conservative and ignores important qualities. This restricted image of humans, he contends, comes about because social scientists concentrate on the repetitive, predictable and invariant aspects of the person; on 'visible externalities' to the exclusion of the subjective world; and on the parts of the person in their endeavours to understand the whole.

Habermas (1972), in keeping with the Frankfurt School of critical theory (critical theory is discussed below), provides a corrosive critique of positivism, arguing that the scientific mentality has been elevated to an almost unassailable position – almost to the level of a religion (scientism) – as being the only epistemology of the west. In this view all knowledge becomes equated with scientific knowledge. This neglects hermeneutic, aesthetic, critical, moral, creative and other forms of knowledge. It reduces behaviour to technicism.

Positivism's concern for control and, thereby, its appeal to the passivity of behaviourism and for instrumental reason is a serious danger to the more open-ended, creative, humanitarian aspects of social behaviour. Habermas (1972; 1974) and Horkheimer (1972) argue that scientism silences an important debate about values, informed

opinion, moral judgements and beliefs. Scientific explanation seems to be the only means of explaining behaviour, and, for them, this seriously diminishes the very characteristics that make humans human. It makes for a society without conscience. Positivism is unable to answer many interesting or important areas of life (Habermas 1972: 300). Indeed this is an echo of Wittgenstein's (1974) famous comment that when all possible scientific questions have been addressed they have left untouched the main problems of life.

Other criticisms are commonly levelled at positivistic social science from within its own ranks. One is that it fails to take account of our unique ability to interpret our experiences and represent them to ourselves. We can and do construct theories about ourselves and our world; moreover, we act on these theories. In failing to recognize this, positivistic social science is said to ignore the profound differences between itself and the natural sciences. Social science, unlike natural science, stands in a subject–subject rather than a subject–object relation to its field of study, and works in a pre-interpreted world in the sense that the meanings that subjects hold are part of their construction of the world (Giddens 1976).

The difficulty in which positivism finds itself is that it regards human behaviour as passive, essentially determined and controlled, thereby ignoring intention, individualism and freedom. This approach suffers from the same difficulties that inhere in behaviourism, which has scarcely recovered from Chomsky's (1959) withering criticism where he writes that a singular problem of behaviourism is our inability to infer causes from behaviour, to identify the stimulus that has brought about the response – the weakness of Skinner's stimulus–response theory. This problem with positivism also rehearses the familiar problem in social theory, namely the tension between agency and structure (Layder 1994): humans exercise agency – individual choice and intention – not necessarily in circumstances of their own choosing, but nevertheless they do not behave simply or deterministically like puppets.

Finally, the findings of positivistic social science are often said to be so banal and trivial that they are of little consequence to those for whom they are intended, namely, teachers, social workers, counsellors, personnel managers, and the like. The more effort, it seems, that researchers put into their scientific experimentation in the laboratory by restricting, simplifying and controlling variables, the more likely they are to end up with a 'pruned, synthetic version of the whole, a constructed play of puppets in a restricted environment.'⁴

These are formidable criticisms; but what alternatives are proposed by the detractors of positivistic social science?

Alternatives to positivistic social science: naturalistic approaches

Although the opponents of positivism within social science itself subscribe to a variety of schools of thought each with its own subtly different epistemological viewpoint, they are united by their common rejection of the belief that human behaviour is governed by general, universal laws and characterized by underlying regularities. Moreover, they would agree that the social world can be understood only from the standpoint of the individuals who are part of the ongoing action being investigated and that their model of a person is an autonomous one, not the plastic version favoured by positivist researchers. In rejecting the viewpoint of the detached, objective observer – a mandatory feature of traditional research – anti-positivists would argue that individuals' behaviour can only be understood by the researcher sharing their frame of reference: understanding of individuals' interpretations of the world around them has to come from the inside, not the outside. Social science is thus seen as a subjective rather than an objective undertaking, as a means of dealing with the direct experience of people in specific contexts, and where social scientists understand, explain and demystify social reality through the eyes of different participants; the participants themselves define the social reality (Beck 1979) (see <http://www.routledge.com/textbooks/9780415368780> – Chapter 1, file 1.3. ppt).

The anti-positivist movement has influenced those constituent areas of social science of most concern to us, namely, psychology, social psychology and sociology. In the case of psychology, for instance, a school of humanistic psychology has emerged alongside the coexisting behaviouristic and psychoanalytic schools. Arising as a response to the challenge to combat the growing feelings of dehumanization which characterize many social and cultural milieux, it sets out to study and understand the person as a *whole* (Buhler and Allen 1972). Humanistic psychologists present a model of people that is positive, active and purposive, and at the same time stresses their own involvement with the life experience itself. They do not stand apart, introspective, hypothesizing. Their interest is directed at the intentional and creative aspects of the human being. The perspective adopted by humanistic psychologists is naturally reflected in their methodology. They are dedicated to studying the individual in preference to the group, and consequently prefer idiographic approaches to nomothetic ones. The implications of the movement's philosophy for the education of the human being have been drawn by Carl Rogers.⁵

Comparable developments within social psychology may be perceived in the 'science of persons' movement. It is argued here that we must use ourselves as a key to our understanding of others and conversely, our understanding of others as a way of finding out about ourselves, an anthropomorphic model of people. Since anthropomorphism means, literally, the attribution of human form and personality, the implied criticism is that social psychology as traditionally conceived has singularly failed, so far, to model people as they really are. As some wry commentators have pleaded, 'For scientific purposes, treat people as if they were human beings' (Harré and Secord 1972), which entails treating them as capable of monitoring and arranging their own actions, exercising their agency.

Social psychology's task is to understand people in the light of this anthropomorphic model. Proponents of this 'science of persons' approach place great store on the systematic and painstaking analysis of social episodes, i.e. behaviour in context.

In Box 1.7 we give an example of such an episode taken from a classroom study. Note how the particular incident would appear on an interaction analysis coding sheet of a researcher employing a positivistic approach. Note, too, how this slice of classroom life can be understood only by knowledge of the specific organizational background and context in which it is embedded.

The approach to analysing social episodes in terms of the 'actors' themselves is known as the 'ethogenic method'.⁶ Unlike positivistic social psychology, which ignores or presumes its subjects' interpretations of situations, ethogenic social psychology, concentrates upon the ways in which persons construe their social world. By probing at their accounts of their actions, it endeavours to come up with an understanding of what those persons were doing in the particular episode.

As an alternative to positivist approaches, naturalistic, qualitative, interpretive approaches

of various hue possess particular distinguishing features:

- People are deliberate and creative in their actions, they act intentionally and make meanings in and through their activities (Blumer 1969).
- People actively construct their social world – they are not the 'cultural dopes' or passive dolls of positivism (Garfinkel, 1967; Becker 1970).
- Situations are fluid and changing rather than fixed and static; events and behaviour evolve over time and are richly affected by context – they are 'situated activities'.
- Events and individuals are unique and largely non-generalizable.
- A view that the social world should be studied in its natural state, without the intervention of, or manipulation by, the researcher (Hammersley and Atkinson 1983).

Box 1.7

A classroom episode

Walker and Adelman describe an incident in the following manner:

In one lesson the teacher was listening to the boys read through short essays that they had written for homework on the subject of 'Prisons'. After one boy, Wilson, had finished reading out his rather obviously skimmed piece of work, the teacher sighed and said, rather crossly:

T: Wilson, we'll have to put you away if you don't change your ways, and do your homework, is that all you've done?
P: Strawberries, strawberries. (Laughter)

Now at first glance this is meaningless. An observer coding with Flanders Interaction Analysis Categories (FIAC) would write down

'7' (teacher criticizes) followed by a
'4' (teacher asks question) followed by a
'9' (pupil irritation) and finally a
'10' (silence or confusion) to describe the laughter

Such a string of codings, however reliable and valid, would not help anyone to *understand* why such an interruption was funny. Human curiosity makes us want to know *why* everyone laughs – and so, I would argue, the social scientist needs to know too. Walker and Adelman (1976), asked subsequently why 'strawberries' was a stimulus to laughter and were told that the teacher frequently said the pupils' work was 'like strawberries' – good as far as it goes, but it doesn't last nearly long enough! Here a casual comment made in the past has become an integral part of the shared meaning system of the class; it can be comprehended only by seeing the relationship as developing over time.

Source: adapted from Delamont, 1976

- Fidelity to the phenomena being studied is fundamental.
- People interpret events, contexts and situations, and act on the bases of those events (echoing Thomas's (1928) famous dictum that if people define their situations as real then they are real in their consequences – if I believe there is a mouse under the table, I will act as though there is a mouse under the table, whether there is or not (Morrison 1998)).
- There are multiple interpretations of, and perspectives on, single events and situations.
- Reality is multilayered and complex.
- Many events are not reducible to simplistic interpretation, hence 'thick descriptions' (Geertz 1973b) are essential rather than reductionism, that is to say thick descriptions representing the complexity of situations are preferable to simplistic ones.
- We need to examine situations through the eyes of participants rather than the researcher.

The anti-positivist movement in sociology is represented by three schools of thought – phenomenology, ethnomethodology and symbolic interactionism. A common thread running through the three schools is a concern with phenomena, that is, the things we directly apprehend through our senses as we go about our daily lives, together with a consequent emphasis on qualitative as opposed to quantitative methodology. The differences between them and the significant roles each phenomenon plays in research in classrooms and schools are such as to warrant a more extended consideration of them in the discussion below.

A question of terminology: the normative and interpretive paradigms

So far we have introduced and used a variety of terms to describe the numerous branches and schools of thought embraced by the positivist and anti-positivist viewpoints. As a matter of convenience and as an aid to communication, we clarify at this point two generic terms conventionally used to describe these two

perspectives and the categories subsumed under each, particularly as they refer to social psychology and sociology. The terms in question are 'normative' and 'interpretive'. The normative paradigm (or model) contains two major orienting ideas (Douglas 1973): first, that human behaviour is essentially rule-governed, and second, that it should be investigated by the methods of natural science. The interpretive paradigm, in contrast to its normative counterpart, is characterized by a concern for the individual. Whereas normative studies are positivist, all theories constructed within the context of the interpretive paradigm tend to be anti-positivist. As we have seen, the central endeavour in the context of the interpretive paradigm is to understand the subjective world of human experience. To retain the integrity of the phenomena being investigated, efforts are made to get inside the person and to understand from within. The imposition of external form and structure is resisted, since this reflects the viewpoint of the observer as opposed to that of the actor directly involved.

Two further differences between the two paradigms may be identified at this stage: the first concerns the concepts of 'behaviour' and 'action'; the second, the different conceptions of 'theory'. A key concept within the normative paradigm, behaviour refers to responses either to external environmental stimuli (another person, or the demands of society, for instance) or to internal stimuli (hunger, or the need to achieve, for example). In either case, the cause of the behaviour lies in the past. Interpretive approaches, on the other hand, focus on action. This may be thought of as behaviour-with-meaning; it is intentional behaviour and as such, future oriented. Actions are meaningful to us only in so far as we are able to ascertain the intentions of actors to share their experiences. A large number of our everyday interactions with one another rely on such shared experiences.

As regards theory, normative researchers try to devise general theories of human behaviour and to validate them through the use of increasingly complex research methodologies which, some believe, push them further and further from the

experience and understanding of the everyday world and into a world of abstraction. For them, the basic reality is the collectivity; it is external to the actor and manifest in society, its institutions and its organizations. The role of theory is to say how reality hangs together in these forms or how it might be changed so as to be more effective. The researcher's ultimate aim is to establish a comprehensive 'rational edifice', a universal theory, to account for human and social behaviour.

But what of the interpretive researchers? They begin with individuals and set out to understand their interpretations of the world around them. Theory is emergent and must arise from particular situations; it should be 'grounded' in data generated by the research act (Glaser and Strauss 1967). Theory should not precede research but follow it. Investigators work directly with experience and understanding to build their theory on them. The data thus yielded will include the meanings and purposes of those people who are their source. Further, the theory so generated must make sense to those to whom it applies. The aim of scientific investigation for the interpretive researcher is to understand how this glossing of reality goes on at one time and in one place and compare it with what goes on in different times and places. Thus theory becomes sets of meanings which yield insight and understanding of people's behaviour. These theories are likely to be as diverse as the sets of human meanings and understandings that they are to explain. From an interpretive perspective the hope of a universal theory which characterizes the normative outlook gives way to multifaceted images of human behaviour as varied as the situations and contexts supporting them.

Phenomenology, ethnomethodology and symbolic interactionism

There are many variants of qualitative, naturalistic approaches (Jacob 1987; Hitchcock and Hughes 1995). Here we focus on three significant 'traditions' in this style of research – phenomenology, ethnomethodology and symbolic interactionism.

In its broadest meaning, phenomenology is a theoretical point of view that advocates the study of direct experience taken at face value; and one which sees behaviour as determined by the phenomena of experience rather than by external, objective and physically described reality (English and English 1958). Although phenomenologists differ among themselves on particular issues, there is fairly general agreement on the following points identified by Curtis (1978) which can be taken as distinguishing features of their philosophical viewpoint:

- a belief in the importance, and in a sense the primacy, of subjective consciousness
- an understanding of consciousness as active, as meaning bestowing
- a claim that there are certain essential structures to consciousness of which we gain direct knowledge by a certain kind of reflection: exactly what these structures are is a point about which phenomenologists have differed.

Various strands of development may be traced in the phenomenological movement: we shall briefly examine two of them – the transcendental phenomenology of Husserl, and existential phenomenology, of which Schutz is perhaps the most characteristic representative.

Husserl, regarded by many as the founder of phenomenology, was concerned with investigating the source of the foundation of science and with questioning the commonsense, 'taken-for-granted' assumptions of everyday life (see Burrell and Morgan 1979). To do this, he set about opening up a new direction in the analysis of consciousness. His catch-phrase was 'Back to the things!' which for him meant finding out how things appear directly to us rather than through the media of cultural and symbolic structures. In other words, we are asked to look beyond the details of everyday life to the essences underlying them. To do this, Husserl exhorts us to 'put the world in brackets' or free ourselves from our usual ways of perceiving the world. What is left over from this reduction is our consciousness of which there are three elements – the 'I' who thinks, the mental acts of this thinking subject, and the intentional

objects of these mental acts. The aim, then, of this method of *epoché*, as Husserl called it, is the dismembering of the constitution of objects in such a way as to free us from all preconceptions about the world (see Warnock 1970).

Schutz was concerned with relating Husserl's ideas to the issues of sociology and to the scientific study of social behaviour. Of central concern to him was the problem of understanding the meaning structure of the world of everyday life. The origins of meaning he thus sought in the 'stream of consciousness' – basically an unbroken stream of lived experiences which have no meaning in themselves. One can impute meaning to them only retrospectively, by the process of turning back on oneself and looking at what has been going on. In other words, meaning can be accounted for in this way by the concept of reflexivity. For Schutz, the attribution of meaning reflexively is dependent on the people identifying the purpose or goal they seek (see Burrell and Morgan 1979).

According to Schutz, the way we understand the behaviour of others is dependent on a process of typification by means of which the observer makes use of concepts resembling 'ideal types' to make sense of what people do. These concepts are derived from our experience of everyday life and it is through them, claims Schutz, that we classify and organize our everyday world. As Burrell and Morgan (1979) observe, we learn these typifications through our biographical locations and social contexts. Our knowledge of the everyday world inheres in social order and this world itself is socially ordered.

The fund of everyday knowledge by means of which we are able to typify other people's behaviour and come to terms with social reality varies from situation to situation. We thus live in a world of multiple realities, and social actors move within and between these with ease (Burrell and Morgan 1979), abiding by the rules of the game for each of these worlds.

Like phenomenology, ethnomethodology is concerned with the world of everyday life. In the words of its proponent, Harold Garfinkel, it sets out

to treat practical activities, practical circumstances, and practical sociological reasonings as topics of empirical study, and by paying to the most commonplace activities of daily life the attention usually accorded extraordinary events, seeks to learn about them as phenomena in their own right.

(Garfinkel 1967)

He maintains that students of the social world must doubt the reality of that world; and that in failing to view human behaviour more sceptically, sociologists have created an ordered social reality that bears little relationship to the real thing. He thereby challenges the basic sociological concept of order.

Ethnomethodology, then, is concerned with how people make sense of their everyday world. More especially, it is directed at the mechanisms by which participants achieve and sustain interaction in a social encounter – the assumptions they make, the conventions they utilize and the practices they adopt. Ethnomethodology thus seeks to understand social accomplishments in their own terms; it is concerned to understand them from within (see Burrell and Morgan 1979).

In identifying the taken-for-granted assumptions characterizing any social situation and the ways in which the people involved make their activities rationally accountable, ethnomethodologists use notions like 'indexicality' and 'reflexivity'. Indexicality refers to the ways in which actions and statements are related to the social contexts producing them; and to the way their meanings are shared by the participants but not necessarily stated explicitly. Indexical expressions are thus the designations imputed to a particular social occasion by the participants in order to locate the event in the sphere of reality. Reflexivity, on the other hand, refers to the way in which all accounts of social settings – descriptions, analyses, criticisms, etc. – and the social settings occasioning them are mutually interdependent.

It is convenient to distinguish between two types of ethnomethodologists: linguistic and situational. The linguistic ethnomethodologists focus upon the use of language and the ways in which conversations in everyday life are

structured. Their analyses make much use of the unstated taken-for-granted meanings, the use of indexical expressions and the way in which conversations convey much more than is actually said. The situational ethnomethodologists cast their view over a wider range of social activity and seek to understand the ways in which people negotiate the social contexts in which they find themselves. They are concerned to understand how people make sense of and order their environment. As part of their empirical method, ethnomethodologists may consciously and deliberately disrupt or question the ordered taken-for-granted elements in everyday situations in order to reveal the underlying processes at work.

The substance of ethnomethodology thus largely comprises a set of specific techniques and approaches to be used in studying what Garfinkel (1967) has described as the 'awesome indexicality' of everyday life. It is geared to empirical study, and the stress which its practitioners place upon the uniqueness of the situation encountered, projects its essentially relativist standpoint. A commitment to the development of methodology and fieldwork has occupied first place in the interests of its adherents, so that related issues of ontology, epistemology and the nature of human beings have received less attention than perhaps they deserve.

Essentially, the notion of symbolic interactionism derives from the work of Mead (1934). Although subsequently to be associated with such noted researchers as Blumer, Hughes, Becker and Goffman, the term does not represent a united perspective in that it does not embrace a common set of assumptions and concepts accepted by all who subscribe to the approach, for our purpose, however, it is possible to identify three basic postulates. These have been set out by Wood (1979) as follows: First, human beings act toward things on the basis of the meanings they have for them. Humans inhabit two different worlds: the 'natural' world wherein they are organisms of drives and instincts; and where the external world exists independently of them; and the social world where the existence of symbolic language enables them to give meaning to objects. This attribution of meaning, this interpreting, is

what makes them distinctively human and social. Interactionists therefore focus on the world of subjective meanings and the symbols by which they are produced and represented. This means not making any prior assumptions about what is going on in an institution, and taking seriously, indeed giving priority to, inmates' own accounts. Thus, if pupils appear preoccupied for too much of the time - 'being bored', 'mucking about', 'having a laugh', etc. the interactionist is keen to explore the properties and dimensions of these processes.

Second, this attribution of meaning to objects through symbols is a continuous process. Action is not simply a consequence of psychological attributes such as drives, attitudes or personalities, or determined by external social facts such as social structure or roles, but results from a continuous process of meaning attribution which is always emerging in a state of flux and subject to change. The individual constructs, modifies, pieces together, weighs up the pros and cons and bargains.

Third, this process takes place in a social context. Individuals align their actions to those of others. They do this by 'taking the role of the other', by making indications to 'themselves' about the likely responses of 'others'. They construct how others wish or might act in certain circumstances, and how they themselves might act. They might try to 'manage' the impressions others have of them, put on a 'performance', try to influence others' 'definition of the situation'.

Instead of focusing on the individual, then, and his or her personality characteristics, or on how the social structure or social situation causes individual behaviour, symbolic interactionists direct their attention at the nature of interaction, the dynamic activities taking place between people. In focusing on the interaction itself as a unit of study, the symbolic interactionist creates a more active image of the human being and rejects the image of the passive determined organism. Individual interaction societies are made up of interacting individuals. People are constantly undergoing change in interaction and society is changing through interaction. Interaction implies human beings acting in relation to each other, valuing

each other into account, acting, perceiving, interpreting, acting again. Hence, a more dynamic and active human being emerges rather than an actor merely responding to others. Woods (1983: 15–16) summarizes key emphases of symbolic interaction thus:

- individuals as constructors of their own actions
- the various components of the self and how they interact; the indications made to self, meanings attributed, interpretive mechanisms, definitions of the situation; in short, the world of subjective meanings, and the symbols by which they are produced and represented
- the process of negotiation, by which meanings are continually being constructed
- the social context in which they occur and whence they derive
- by taking the 'role of the other' – a dynamic concept involving the construction of how others wish to or might act in a certain circumstance, and how individuals themselves might act – individuals align their actions to those of others.

A characteristic common to the phenomenological, ethnomethodological and symbolic interactionist perspectives, which makes them singularly attractive to the would-be educational researcher, is the way they fit naturally to the kind of concentrated action found in classrooms and schools. Yet another shared characteristic is the manner in which they are able to preserve the integrity of the situation where they are employed. Here the influence of the researcher in structuring, analysing and interpreting the situation is present to a much smaller degree than would be the case with a more traditionally oriented research approach.

Criticisms of the naturalistic and interpretive approaches

Critics have wasted little time in pointing out what they regard as weaknesses in these newer qualitative perspectives. They argue that while it is undeniable that our understanding of the actions of our fellow-beings necessarily requires knowledge

of their intentions, this, surely, cannot be said to comprise the purpose of a social science. As Rex (1974) has observed:

While patterns of social reactions and institutions may be the product of the actors' definitions of the situations there is also the possibility that those actors might be falsely conscious and that sociologists have an obligation to seek an objective perspective which is not necessarily that of any of the participating actors at all.... We need not be confined purely and simply to that... social reality which is made available to us by participant actors themselves.

(Rex 1974)

While these more recent perspectives have presented models of people that are more in keeping with common experience, some argue that anti-positivists have gone too far in abandoning scientific procedures of verification and in giving up hope of discovering useful generalizations about behaviour (see Mead 1934). Are there not dangers in rejecting the approach of physics in favour of methods more akin to literature, biography and journalism? Some specific criticisms of the methodologies are well directed, for example Argyle (1978) questions whether, if carefully controlled interviews such as those used in social surveys are inaccurate, then the less controlled interviews carry even greater risks of inaccuracy. Indeed Bernstein (1974) suggests that subjective reports may be incomplete and misleading.

Bernstein's criticism is directed at the overriding concern of phenomenologists and ethnomethodologists with the meanings of situations and the ways in which these meanings are negotiated by the actors involved. What is overlooked about such negotiated meanings, observes Bernstein (1974), is that the very process whereby one interprets and defines a situation is itself a product of the circumstances in which one is placed. One important factor in such circumstances that must be considered is the power of others to impose their own definitions of situations upon participants. Doctors' consulting rooms and headteachers' studies are locations in which inequalities in power are regularly imposed upon unequal participants. The ability of certain individuals, groups, classes and

authorities to persuade others to accept their definitions of situations demonstrates that while – as ethnomethodologists insist – social structure is a consequence of the ways in which we perceive social relations, it is clearly more than this. Conceiving of social structure as external to ourselves helps us take its self-evident effects upon our daily lives into our understanding of the social behaviour going on about us. Here is rehearsed the tension between agency and structure of social theorists (Layder 1994); the danger of interactionist and interpretive approaches is their relative neglect of the power of external – structural – forces to shape behaviour and events. There is a risk in interpretive approaches that they become hermetically sealed from the world outside the participants' theatre of activity – they put artificial boundaries around subjects' behaviour. Just as positivistic theories can be criticized for their macro-sociological persuasion, so interpretive and qualitative theories can be criticized for their narrowly micro-sociological perspectives.

Critical theory and critical educational research

Positivist and interpretive paradigms are essentially concerned with understanding phenomena through two different lenses. Positivism strives for objectivity, measurability, predictability, controllability, patterning, the construction of laws and rules of behaviour, and the ascription of causality; the interpretive paradigms strive to understand and interpret the world in terms of its actors. In the former observed phenomena are important, in the latter meanings and interpretations are paramount. Habermas (1984: 109–10), echoing Giddens (1976), describes this latter as a 'double hermeneutic', where people strive to interpret and operate in an already interpreted world. An emerging approach to educational research is the paradigm of *critical educational research*. This regards the two previous paradigms as presenting incomplete accounts of social behaviour by their neglect of the political and ideological context of much educational research. Positivist and interpretive paradigms are seen as preoccupied

with technical and hermeneutic knowledge respectively (Gage 1989). The paradigm of critical educational research is heavily influenced by the early work of Habermas and, to a lesser extent, his predecessors in the Frankfurt School, most notably Adorno, Marcuse, Horkheimer and Fromm. Here the expressed intention is deliberately political – the emancipation of individuals and groups in an egalitarian society (see <http://www.routledge.com/textbooks/9780415368780> – Chapter 1, file 1.4, ppt).

Critical theory is explicitly prescriptive and normative, entailing a view of what behaviour in a social democracy *should* entail (Fay 1987; Morrison 1995a). Its intention is not merely to give an account of society and behaviour but to realize a society that is based on equality and democracy for all its members. Its purpose is not merely to understand situations and phenomena but to change them. In particular it seeks to emancipate the disempowered, to redress inequality and to promote individual freedoms within a democratic society.

In this enterprise critical theory identifies the 'false' or 'fragmented' consciousness (Engelron 1991) that has brought an individual or social group to relative powerlessness or, indeed, power, and it questions the legitimacy of this. It holds up to the lights of legitimacy and equality issues of repression, voice, ideology, power, participation, representation, inclusion and interests. It argues that much behaviour (including research behaviour) is the outcome of particular illegitimate, domineering and repressive factors, illegitimate in the sense that they do not operate in the general interest – one person or group's freedom and power is bought at the price of another's freedom and power. Hence critical theory seeks to uncover the *interests* at work in particular situations and to interrogate the legitimacy of those interests, identifying the extent to which they are legitimate in their service of equality and democracy. Its intention is *transformational*: to transform society and individuals to social democracy. In this respect the purpose of critical educational research is intensely practical: to bring about a more just, egalitarian society.

in which individual and collective freedoms are practised, and to eradicate the exercise and effects of illegitimate power. The pedigree of critical theory in Marxism, thus, is not difficult to discern. For critical theorists, researchers can no longer claim neutrality and ideological or political innocence.

Critical theory and critical educational research, then, have their substantive agenda – for example examining and interrogating: the relationships between school and society – how schools perpetuate or reduce inequality; the social construction of knowledge and curricula, who defines worthwhile knowledge, what ideological interests this serves, and how this reproduces inequality in society; how power is produced and reproduced through education; whose interests are served by education and how legitimate these are (e.g. the rich, white, middle-class males rather than poor, non-white females).

The significance of critical theory for research is immense, for it suggests that much social research is comparatively trivial in that it *accepts* rather than *questions* given agendas for research, compounded by the funding for research, which underlines the political dimension of research sponsorship (discussed later) (Norris 1990). Critical theorists would argue that the positivist and interpretive paradigms are essentially technicist, seeking to understand and render more efficient an existing situation, rather than to question or transform it.

Habermas (1972) offers a useful tripartite conceptualization of interests that catches the three paradigms of research in this chapter. He suggests that knowledge – and hence research knowledge – serves different interests. Interests, he argues, are socially constructed, and are 'knowledge-constitutive', because they shape and determine what counts as the objects and types of knowledge. Interests have an ideological function (Morrison 1995a), for example a 'technical interest' (discussed below) can have the effect of keeping the empowered in their empowered position and the disempowered in their powerlessness – i.e. reinforcing and perpetuating the status quo. An 'emancipatory interest' (discussed below) threatens the status quo. In this view knowledge – and research

knowledge – is not neutral (see also Mannheim 1936). What counts as worthwhile knowledge is determined by the social and positional power of the advocates of that knowledge. The link here between objects of study and communities of scholars echoes Kuhn's (1962) notions of paradigms and paradigm shifts, where the field of knowledge or paradigm is seen to be only as good as the evidence and the respect in which it is held by 'authorities'. Knowledge and definitions of knowledge reflect the interests of the community of scholars who operate in particular paradigms. Habermas (1972) constructs the definition of worthwhile knowledge and modes of understanding around three cognitive interests (see <http://www.routledge.com/textbooks/9780415368780> – Chapter 1, file 1.5. ppt):

- prediction and control
- understanding and interpretation
- emancipation and freedom.

He names these the 'technical', 'practical' and 'emancipatory' interests respectively. The technical interest characterizes the scientific, positivist method outlined earlier, with its emphasis on laws, rules, prediction and control of behaviour, with passive research objects – instrumental knowledge. The 'practical' interest, an attenuation of the positivism of the scientific method, is exemplified in the hermeneutic, interpretive methodologies outlined in the qualitative approaches earlier (e.g. symbolic interactionism). Here research methodologies seek to clarify, understand and interpret the communications of 'speaking and acting subjects' (Habermas 1974: 8).

Hermeneutics focuses on interaction and language; it seeks to understand situations through the eyes of the participants, echoing the *verstehen* approaches of Weber and premised on the view that reality is socially constructed (Berger and Luckmann 1967). Indeed Habermas (1988: 12) suggests that sociology must understand social facts in their cultural significance and as socially determined. Hermeneutics involves recapturing the meanings of interacting others, recovering and reconstructing the intentions of the other actors in a situation. Such an enterprise involves the analysis

of meaning in a social context (Held 1980). Gadamer (1975: 273) argues that the hermeneutic sciences (e.g. qualitative approaches) involve the *fusion of horizons* between participants. Meanings rather than phenomena take on significance here.

The emancipatory interest subsumes the previous two paradigms; it requires them but goes beyond them (Habermas 1972: 211). It is concerned with *praxis* – action that is informed by reflection with the aim to emancipate (Kincheloe 1991: 177). The twin intentions of this interest are to expose the operation of power and to bring about social justice as domination and repression act to prevent the full existential realization of individual and social freedoms (Habermas 1979: 14). The task of this knowledge-constitutive interest, indeed of critical theory itself, is to restore to consciousness those suppressed, repressed and submerged determinants of unfree behaviour with a view to their dissolution (Habermas 1984: 194–5).

What we have in effect, then, in Habermas's early work is an attempt to conceptualize three research styles: the scientific, positivist style; the interpretive style; and the emancipatory, ideology critical style. Not only does critical theory have its own research agenda, but also it has its own research methodologies, in particular ideology critique and action research. With regard to ideology critique, a particular reading of ideology is being adopted here, as the *suppression of generalizable interests* (Habermas 1976: 113), where systems, groups and individuals operate in rationally indefensible ways because their power to act relies on the disempowering of other groups, i.e. that their principles of behaviour cannot be generalized.

Ideology – the values and practices emanating from particular dominant groups – is the means by which powerful groups promote and legitimize their particular – sectoral – interests at the expense of disempowered groups. Ideology critique exposes the operation of ideology in many spheres of education, the working out of vested interests under the mantle of the general good. The task of ideology critique is to uncover the vested interests at work which may be occurring consciously or subliminally, revealing to participants how they may be acting to

perpetuate a system which keeps them either empowered or disempowered (Geuss 1981), i.e. which suppresses a generalizable interest. Explanations for situations might be other than those 'natural', taken for granted, explanations that the participants might offer or accept. Situations are not natural but problematic (Carr and Kemmis 1986). They are the outcomes or processes wherein interests and powers are protected and suppressed, and one task of ideology critique is to expose this (Grundy 1987). The interests at work are uncovered by ideology critique, which, itself, is premised on reflective practice (Morrison 1995a; 1995b; 1996a). Habermas (1972: 230) suggests that ideology critique through reflective practice can be addressed in four stages:

- Stage 1: a description and interpretation of the existing situation – a hermeneutic exercise that identifies and attempts to make sense of the current situation (echoing the *verstehen* approaches of the interpretive paradigm) (see <http://www.routledge.com/textbooks/9780415368780> – Chapter 1, file 1.6. ppt).
- Stage 2: a penetration of the reasons that brought the existing situation to the form that it takes – the causes and purposes of a situation and an evaluation of their legitimacy, involving an analysis of interests and ideologies at work in a situation, their power and legitimacy (both in micro- and macro-sociological terms). Habermas's (1972) early work likens this to psychoanalysis as a means for bringing into the consciousness of 'patients' those repressed, distorted and oppressive conditions, experiences and factors that have prevented them from a full, complete and accurate understanding of their conditions, situations and behaviour, and that, on such exposure and examination, will be liberatory and emancipatory. Critique here reveals to individuals and groups how their views and practices might be ideological distortions that, in their effects, perpetuate a social order or situation that works against their democratic freedoms, interests and empowerment (see also Carr and Kemmis 1986: 138–9).

- Stage 3: an agenda for altering the situation – in order for moves to an egalitarian society to be furthered.
- Stage 4: an evaluation of the achievement of the situation in practice.

In the world of education Habermas's stages are paralleled by Smyth (1989) who, too, denotes a four-stage process:

- *description* (what am I doing?)
- *information* (what does it mean?)
- *confrontation* (how did I come to be like this?)
- *reconstruction* (how might I do things differently?)

It can be seen that ideology critique here has both a reflective, theoretical and a practical side to it; without reflection it is hollow and without practice it is empty.

As ideology is not mere theory but impacts directly on practice (Eagleton 1991) there is a strongly practical methodology implied by critical theory, which articulates with action research (Callawaert 1999). Action research (discussed in Chapter 14), as its name suggests, is about research that impacts on, and focuses on, practice. In its espousal of practitioner research, for example teachers in schools, participant observers and curriculum developers, action research recognizes the significance of contexts for practice – locational, ideological, historical, managerial, social. Furthermore it accords power to those who are operating in those contexts, for they are both the engines of research and of practice. In that sense the claim is made that action research is strongly empowering and emancipatory in that it gives practitioners a 'voice' (Carr and Kemmis 1986; Grundy 1987), participation in decision-making, and control over their environment and professional lives. Whether the strength of the claims for empowerment are as strong as their proponents would hold is another matter, for action research might be relatively powerless in the face of mandated changes in education. Here action research might be more concerned with the intervening in existing practice to ensure

that mandated change is addressed efficiently and effectively.

Morrison (1995a) suggests that critical theory, because it has a practical intent to transform and empower, can – and should – be examined and perhaps tested empirically. For example, critical theory claims to be empowering; that is a testable proposition. Indeed, in a departure from some of his earlier writing, in some of his later work Habermas (1990) acknowledges this; he argues for the need to find 'counter examples' (p. 6), to 'critical testing' (p. 7) and empirical verification (p. 117). He acknowledges that his views have only 'hypothetical status' (p. 32) that need to be checked against specific cases (p. 9). One could suggest, for instance, that the effectiveness of his critical theory can be examined by charting the extent to which equality, freedom, democracy, emancipation, empowerment have been realized by dint of his theory; the extent to which transformative practices have been addressed or occurred as a result of his theory; the extent to which subscribers to his theory have been able to assert their agency; the extent to which his theories have broken down the barriers of instrumental rationality. The operationalization and testing (or empirical investigation) of his theories clearly is a major undertaking, and one which Habermas has not done. In this respect critical theory, a theory that strives to improve practical living, runs the risk of becoming merely contemplative (see <http://www.routledge.com/textbooks/9780415368780> – Chapter 1, file 1.7. ppt).

Criticisms of approaches from critical theory

There are several criticisms that have been voiced against critical approaches. Morrison (1995a) suggests that there is an artificial separation between Habermas's three interests – they are drawn far more sharply (Hesse 1982; Bernstein 1983: 33). For example, one has to bring hermeneutic knowledge to bear on positivist science and vice versa in order to make meaning of each other and in order to judge

their own status. Further, the link between ideology critique and emancipation is neither clear nor proven, nor a logical necessity (Morrison 1995a: 67) – whether a person or society can become emancipated simply by the exercise of ideology critique or action research is an empirical rather than a logical matter (Morrison 1995a; Wardekker and Miedama 1997). Indeed one can become emancipated by means other than ideology critique; emancipated societies do not necessarily demonstrate or require an awareness of ideology critique. Moreover, it could be argued that the rationalistic appeal of ideology critique actually obstructs action designed to bring about emancipation. Roderick (1986: 65), for example, questions whether the espousal of ideology critique is itself as ideological as the approaches that it proscribes. Habermas, in his allegiance to the view of the social construction of knowledge through 'interests', is inviting the charge of relativism.

While the claim to there being three forms of knowledge has the epistemological attraction of simplicity, one has to question this very simplicity (e.g. Keat 1981: 67); there are a multitude of interests and ways of understanding the world and it is simply artificial to reduce these to three. Indeed it is unclear whether Habermas, in his three knowledge-constitutive interests, is dealing with a conceptual model, a political analysis, a set of generalities, a set of transhistorical principles, a set of temporally specific observations, or a set of loosely defined slogans (Morrison 1995a: 71) that survive only by dint of their ambiguity (Kolakowski 1978). Lakowski (1999: 179–82) questions the acceptability of the consensus theory of truth on which Habermas's work is premised; she argues that Habermas's work is silent on social change, and is little more than speculation, a view echoed by Fendler's (1999) criticism of critical theory as inadequately problematizing subjectivity and ahistoricity.

More fundamental to a critique of this approach is the view that critical theory has a deliberate political agenda, and that the task of the researcher is not to be an ideologue or to have an agenda, but to be dispassionate, disinterested and objective (Morrison 1995a). Of course, critical

theorists would argue that the call for researchers to be ideologically neutral is itself ideologically saturated with laissez-faire values which allow the status quo to be reproduced, i.e. that the call for researchers to be neutral and disinterested is just as value laden as is the call for them to intrude their own perspectives. The rights of the researcher to move beyond disinterestedness are clearly contentious, though the safeguard here is that the researcher's is only one voice in the community of scholars (Kemmis 1982). Critical theorists as researchers have been hoisted by their own petard, for if they are to become more than merely negative Jeremiahs and sceptics, berating a particular social order that is dominated by scientism and instrumental rationality (Eagleton 1991; Wardekker and Miedama 1997), then they have to generate a positive agenda, but in so doing they are violating the traditional objectivity of researchers. Because their focus is on an ideological agenda, they themselves cannot avoid acting ideologically (Morrison 1995a).

Claims have been made for the power of action research to empower participants as researchers (e.g. Carr and Kemmis 1986; Grundy 1987). This might be over-optimistic in a world in which power is often through statute; the reality of political power seldom extends to teachers. That teachers might be able to exercise some power in schools but that this has little effect on the workings of society at large was caught in Bernstein's (1970) famous comment that 'education cannot compensate for society'. Giving action researchers a small degree of power (to research their own situations) has little effect on the *real* locus of power and decision-making, which often lies outside the control of action researchers. Is action research genuinely and full-bloodedly empowering and emancipatory? Where is the evidence?

Critical theory and curriculum research

For research methods, the tenets of critical theory suggest their own substantive fields of enquiry and their own methods (e.g. ideology critique and action research). Beyond that the contribution to this text on empirical research methods is perhaps

limited by the fact that the agenda of critical theory is highly particularistic, prescriptive and, as has been seen, problematical. Though it is an influential paradigm, it is influential in certain fields rather than in others. For example, its impact on curriculum research has been far-reaching.

It has been argued for many years that the most satisfactory account of the curriculum is given by a modernist, positivist reading of the development of education and society. This has its curricular expression in Tyler's (1949) famous and influential rationale for the curriculum in terms of four questions:

- 1 What educational purposes should the school seek to attain?
- 2 What educational experiences can be provided that are likely to attain these purposes?
- 3 How can these educational experiences be effectively organized?
- 4 How can we determine whether these purposes are being attained?

Underlying this rationale is a view that the curriculum is controlled (and controllable), ordered, predetermined, uniform, predictable and largely behaviourist in outcome – all elements of the positivist mentality that critical theory eschews. Tyler's rationale resonates sympathetically with a modernist, scientific, managerialist mentality of society and education that regards ideology and power as unproblematic, indeed it claims the putative political neutrality and objectivity of positivism (Doll 1993); it ignores the advances in psychology and psychopedagogy made by constructivism.

However, this view has been criticized for precisely these sympathies. Doll (1993) argues that it represents a closed system of planning and practice that sits uncomfortably with the notion of education as an opening process and with the view of postmodern society as open and diverse, multidimensional, fluid and with power less monolithic and more problematical. This view takes seriously the impact of chaos and complexity theory and derives from them some important features for contemporary curricula. These are

incorporated into a view of curricula as being rich, relational, recursive and rigorous (Doll 1993) with an emphasis on emergence, process epistemology and constructivist psychology.

Not all knowledge can be included in the curriculum; the curriculum is a selection of what is deemed to be worthwhile knowledge. The justification for that selection reveals the ideologies and power in decision-making in society and through the curriculum. Curriculum is an ideological selection from a range of possible knowledge. This resonates with Habermas's (1972) view that knowledge and its selection is neither neutral nor innocent.

Ideologies can be treated unpejoratively as sets of beliefs or, more sharply, as sets of beliefs emanating from powerful groups in society, designed to protect the interests of the dominant. If curricula are value-based then why is it that some values hold more sway than others? The link between values and power is strong. This theme asks not only *what* knowledge is important but also *whose* knowledge is important in curricula, *what* and *whose* interests such knowledge serves, and *how* the curriculum and pedagogy serve (or do not serve) differing interests. Knowledge is not neutral (as was the tacit view in modernist curricula). The curriculum is ideologically contestable terrain.

The study of the sociology of knowledge indicates how the powerful might retain their power through curricula and how knowledge and power are legitimized in curricula. The study of the sociology of knowledge suggests that the curriculum should be both subject to ideology critique and itself promote ideology critique in students. A research agenda for critical theorists, then, is how the curriculum perpetuates the societal status quo and how can it (and should it) promote equality in society.

The notion of ideology critique engages the early writings of Habermas (1972), in particular his theory of three knowledge-constitutive interests. His *technical interest* (in control and predictability) resonates with Tyler's (1949) model of the curriculum and reveals itself in technicist, instrumentalist and scientific views of curricula that are to be 'delivered' to passive recipients – the

curriculum is simply another commodity in a consumer society in which differential cultural capital is inevitable. Habermas's *hermeneutic interest* (in understanding others' perspectives and views) resonates with a *process* view of the curriculum. His *emancipatory interest* (in promoting social emancipation, equality, democracy, freedoms and individual and collective empowerment) requires an exposure of the ideological interests at work in curricula in order that teachers and students can take control of their own lives for the collective, egalitarian good. Habermas's emancipatory interest denotes an inescapably political reading of the curriculum and the purposes of education – the movement away from authoritarianism and elitism and towards social democracy.

Habermas's work underpins and informs much contemporary and recent curriculum theory (e.g. Grundy 1987; Apple 1990; UNESCO 1996) and is a useful heuristic device for understanding the motives behind the heavy prescription of curriculum content in, for example, the United Kingdom, New Zealand, Hong Kong and France. For instance, one can argue that the National Curriculum of England and Wales is heavy on the technical and hermeneutic interests but very light on the emancipatory interest (Morrison 1995a) and that this (either deliberately or in its effects) supports – if not contributes to – the reproduction of social inequality. As Bernstein (1971: 47) argues: 'how a society selects, classifies, distributes, transmits and evaluates the educational knowledge it considers to be public, reflects both the distribution of power and the principles of social control'.

Several writers on curriculum theory (e.g. McLaren 1995; Leisyna *et al.* 1996) argue that power is a central, defining concept in matters of the curriculum. Here considerable importance is accorded to the political agenda of the curriculum, and the empowerment of individuals and societies is an inescapable consideration in the curriculum. One means of developing student and societal empowerment finds its expression in Habermas's (1972) emancipatory interest and critical pedagogy.

In the field of critical pedagogy the argument is advanced that educators must work with, and on, the lived experience that students bring to the pedagogical encounter rather than imposing a dominatory curriculum that reproduces social inequality. In this enterprise teachers are to transform the experience of domination in students and empower them to become 'emancipated' in a full democracy. Students' everyday experiences of oppression, of being 'silenced', of having their cultures and 'voices' excluded from curricula and decision-making are to be examined for the ideological messages that are contained in such acts. Raising awareness of such inequalities is an important step to overcoming them. Teachers and students together move forward in the progress towards 'individual autonomy within a just society' (Masschelein 1991: 97). In place of centrally prescribed and culturally biased curricula that students simply receive, critical pedagogy regards the curriculum as a form of cultural politics in which participants in (rather than recipients of) curricula question the cultural and dominatory messages contained in curricula and replace them with a 'language of possibility' and empowering, often community-related curricula. In this way curricula serve the 'socially critical' rather than the culturally and ideologically passive school.

One can discern a utopian and generalized tenor in some of this work, and applying critical theory to education can be criticized for its limited comments on practice. Indeed Miedema and Wardekker (1999: 68) go so far as to suggest that critical pedagogy has had its day, and that it was a stillborn child and that critical theory is a philosophy of science without a science (p. 75)! Nevertheless it is an important field for it recognizes and makes much of the fact that curricula and pedagogy are problematical and political.

A summary of the three paradigms

Box 1.8 summarizes some of the broad differences between the three approaches that we have made so far (see <http://www.routledge.com/textbooks/9780415306780> – Chapter 1, file 1.8, ppt)

Box 1.8

Differing approaches to the study of behaviour

<i>Normative</i>	<i>Interpretive</i>	<i>Critical</i>
Society and the social system	The individual	Societies, groups and individuals
Medium/large-scale research	Small-scale research	Small-scale research
Impersonal, anonymous forces regulating behaviour	Human actions continuously recreating social life	Political, ideological factors, power and interests shaping behaviour
Model of natural sciences	Non-statistical	Ideology critique and action research
'Objectivity'	'Subjectivity'	Collectivity
Research conducted 'from the outside'	Personal involvement of the researcher	Participant researchers, researchers and facilitators
Generalizing from the specific	Interpreting the specific	Critiquing the specific
Explaining behaviour/seeking causes	Understanding actions/meanings rather than causes	Understanding, interrogating, critiquing, transforming actions and interests
Assuming the taken-for-granted	Investigating the taken-for-granted	Interrogating and critiquing the taken for granted
Macro-concepts: society, institutions, norms, positions, roles, expectations	Micro-concepts: individual perspective, personal constructs, negotiated meanings, definitions of situations	Macro- and micro-concepts: political and ideological interests, operations of power
Structuralists	Phenomenologists, symbolic interactionists, ethnomethodologists	Critical theorists, action researchers, practitioner researchers
Technical interest	Practical interest	Emancipatory interest

The emerging paradigm of complexity theory

An emerging fourth paradigm in educational research is that of complexity theory (Morrison 2002a). Complexity theory looks at the world in ways which break with simple cause-and-effect models, linear predictability, and a dissection approach to understanding phenomena, replacing them with organic, non-linear and holistic approaches (Santonius 1998: 3) in which relations within interconnected networks are the order of the day (Youngblood 1997: 27; Wheatley 1999: 10). Here key terms are feedback, recursion, emergence, connectedness and self-organization. Out go the simplistic views of linear causality, the ability to predict, control and manipulate, and in come uncertainty, networks and connection, self-organization, emergence over time through feedback and the relationships of the internal and external environments, and survival and development through adaptation and change.

Chaos and complexity theories argue against the linear, deterministic, patterned, universalizable, stable, atomized, modernistic, objective, mechanist, controlled, closed systems of law-like behaviour which may be operating in the laboratory but which do not operate in the social world of education. These features of chaos and complexity theories seriously undermine the value of experiments and positivist research in education (e.g. Gleick 1987; Waldrop 1992; Lewin 1993).

Complexity theory suggests that phenomena must be looked at holistically; to atomize phenomena into a restricted number of variables and then to focus only on certain factors is to miss the necessary dynamic interaction of several parts. More fundamentally, complexity theory suggests that the conventional units of analysis in educational research (as in other fields) should move away from, for example, individuals, institutions, communities and systems (cf. Lemke 2001). These should merge, so that the unit of analysis becomes a web or ecosystem (Capra 1996: 301), focused on,

and arising from, a specific topic or centre of interest (a 'strange attractor'). Individuals, families, students, classes, schools, communities and societies exist in symbiosis; complexity theory tells us that their relationships are necessary, not contingent, and analytic, not synthetic. This is a challenging prospect for educational research, and complexity theory, a comparatively new perspective in educational research, offers considerable leverage into understanding societal, community, individual, and institutional change; it provides the nexus between macro- and micro-research in understanding and promoting change.

In addressing holism, complexity theory suggests the need for case study methodology, action research, and participatory forms of research, premised in many ways on interactionist, qualitative accounts, i.e. looking at situations through the eyes of as many participants or stakeholders as possible. This enables multiple causality, multiple perspectives and multiple effects to be charted. Self-organization, a key feature of complexity theory, argues for participatory, collaborative and multi-perspectival approaches to educational research. This is not to deny 'outsider' research; it is to suggest that, if it is conducted, outsider research has to take in as many perspectives as possible.

In educational research terms, complexity theory stands against simple linear methodologies based on linear views of causality, arguing for multiple causality and multidirectional causes and effects, as organisms (however defined: individuals, groups, communities) are networked and relate at a host of different levels and in a range of diverse ways. No longer can one be certain that a simple cause brings a simple or single effect, or that a single effect is the result of a single cause, or that the location of causes will be in single fields only, or that the location of effects will be in a limited number of fields.

Complexity theory not only questions the values of positivist research and experimentation, but also underlines the importance of educational research to catch the deliberate, intentional, agentic actions of participants and to adopt interactionist

and constructivist perspectives. Addressing complexity theory's argument for self-organization, the call is for the teacher-as-researcher movement to be celebrated, and complexity theory suggests that research in education could concern itself with the symbiosis of internal and external researchers and research partnerships. Just as complexity theory suggests that there are multiple views of reality, so this accords not only with the need for several perspectives on a situation (using multi-methods), but resonates with those tenets of critical research that argue for different voices and views to be heard. Heterogeneity is the watchword. Complexity theory not only provides a powerful challenge to conventional approaches to educational research, but also suggests both a substantive agenda and a set of methodologies. It provides an emerging new paradigm for research (see <http://www.routledge.com/textbooks/9780415368780> – Chapter 1, file 1.1.doc).

Feminist research

It is perhaps no mere coincidence that feminist research should surface as a serious issue at the same time as ideology-critical paradigms for research; they are closely connected. Usher (1996: 124), although criticizing Habermas for his faith in family life as a haven from a heartless, exploitative world, nevertheless sets out several principles of feminist research that resonate with the ideology critique of the Frankfurt School:

- acknowledging the pervasive influence of gender as a category of analysis and organization
- deconstructing traditional commitments to truth, objectivity and neutrality
- adopting an approach to knowledge creation which recognizes that all theories are perspectival
- using a multiplicity of research methods
- acknowledging the interdisciplinary nature of feminist research
- involving the researcher and the people being researched

- deconstructing the theory–practice relationship.

Her suggestions build on earlier recognition of the significance of addressing the 'power issue' in research ('whose research', 'research for whom', 'research in whose interests') and the need to address the emancipatory element of educational research – that research should be empowering to all participants. The paradigm of critical theory questioned the putative objective, neutral, value-free, positivist, 'scientific' paradigm for the splitting of theory and practice and for its reproduction of asymmetries of power (reproducing power differentials in the research community and for treating participants/respondents instrumentally – as objects).

Robson (1993: 64) suggests seven sources of sexism in research:

- *androcentricity*: seeing the world through male eyes and applying male research paradigms to females
- *overgeneralization*: when a study generalizes from males to females
- *gender insensitivity*: ignoring sex as a possible variable
- *double standards*: using male criteria, measures and standards to judge the behaviour of women and vice versa (e.g. in terms of social status)
- *sex appropriateness*: e.g. that child-rearing is women's responsibility
- *familism*: treating the family, rather than the individual, as the unit of analysis
- *sexual dichotomism*: treating the sexes as distinct social groups when, in fact, they may share characteristics.

Feminist research, too, challenges the legitimacy of research that does not empower oppressed and otherwise invisible groups – women. Ezzy (2002: 20) writes of the need to replace a traditional masculine picture of science with an emancipatory commitment to knowledge that stems from a feminist perspective, since, 'if women's experience is analysed using only theories and observations from the standpoint of men, the resulting theories

oppress women' (p. 23). Gender, as Ezzy (2002: 43) writes, is 'a category of experience'.

Positivist research served a given set of power relations, typically empowering the white, male-dominated research community at the expense of other groups whose voices were silenced. Feminist research seeks to demolish and replace this with a different substantive agenda – of empowerment, voice, emancipation, equality and representation for oppressed groups. In doing so, it recognizes the necessity for foregrounding issues of power, silencing and voicing, ideology critique and a questioning of the legitimacy of research that does not emancipate hitherto disempowered groups. In feminist research, women's consciousness of oppression, exploitation and disempowerment becomes a focus for research – the paradigm of ideology critique.

Far from treating educational research as objective and value-free, feminists argue that this is merely a smokescreen that serves the existing, disempowering status quo, and that the subject and value-laden nature of research must be surfaced, exposed and engaged (Haig 1999: 223). Supposedly 'value-free, neutral research perpetuates power differentials. Indeed Jayaratne and Stewart (1991) question the traditional, exploitative nature of much research in which the researchers receive all the rewards while the participants remain in their – typically powerless – situation, i.e. in which the status quo of oppression, under-privilege and inequality remain undisturbed. As Scott (1985: 80) writes: 'we may simply use other women's experiences to further our own aims and careers'. Cresswell (1998: 83), too, suggests that feminist research strives to establish collaborative and non-exploitative relationships. Indeed Scott (1985) questions how ethical it is for a woman researcher to interview those who are less privileged and more exploited than she herself is.

Changing this situation entails taking seriously issues of reflexivity, the effects of the research on the researched and the researchers, the breakdown of the positivist paradigm, and the raising of consciousness of the purposes and effects of the research. Ezzy (2002: 153) writes

that 'the personal experience of the researcher is an integral part of the research process' and reinforces the point that objectivity is a false claim by researchers.

Ribbens and Edwards (1997) suggest that it is important to ask how researchers can produce work with reference to theoretical perspectives and formal traditions and requirements of public, academic knowledge while still remaining faithful to the experiences and accounts of research participants. Denzin (1989), Mies (1993), Haig (1999) and De Laine (2000) argue for several principles in feminist research:

- The asymmetry of gender relations and representation must be studied reflexively as constituting a fundamental aspect of social life (which includes educational research).
- Women's issues, their history, biography and biology, feature as a substantive agenda/focus in research – moving beyond mere perspectival/methodological issues to setting a research agenda.
- The raising of consciousness of oppression, exploitation, empowerment, equality, voice and representation is a methodological tool.
- The acceptability and notion of objectivity and objective research must be challenged.
- The substantive, value-laden dimensions and purposes of feminist research must be paramount.
- Research must empower women.
- Research need not be undertaken only by academic experts.
- Collective research is necessary: women need to collectivize their own individual histories if they are to appropriate these histories for emancipation.
- There is a commitment to revealing core processes and recurring features of women's oppression.
- There is an insistence on the inseparability of theory and practice.
- There is an insistence on the connections between the private and the public, between the domestic and the political.

- There is a concern with the construction and reproduction of gender and sexual difference.
- Narrow disciplinary boundaries are rejected.
- The artificial subject/researcher dualism is rejected.
- Positivism and objectivity as male mythology are rejected.
- There is an increased use of qualitative, introspective biographical research techniques.
- The gendered nature of social research and the development of anti-sexist research strategies are recognized.
- There is a review of the research process as consciousness and awareness raising and as fundamentally participatory.
- The primacy of women's personal subjective experience is recognized.
- Hierarchies in social research are rejected.
- The vertical, hierarchical relationships of researchers, research community and research objects, in which the research itself can become an instrument of domination and the reproduction and legitimation of power elites, have to be replaced by research that promotes the interests of dominated, oppressed, exploited groups.
- The equal status and reciprocal relationships between subjects and researchers are recognized.
- There is a need to change the status quo, not merely to understand or interpret it.
- The research must be a process of conscientization, not research solely by experts for experts, but to empower oppressed participants.

Indeed Webb *et al.* (2004) set out six principles for a feminist pedagogy in the teaching of research methodology:

- reformulating the professor–student relationship (from hierarchy to equality and sharing)
- ensuring empowerment (for a participatory democracy)
- building community (through collaborative learning)
- privileging the individual voice (not only the lecturer's)

- respecting diversity of personal experience (rooted, for example, in gender, race, ethnicity, class, sexual preference)
- challenging traditional views (e.g. the sociology of knowledge).

Gender shapes research agendas, the choice of topics and foci, the choice of data collection techniques and the relationships between researchers and researched. Several methodological principles flow from a 'rationale' for feminist research (Denzin 1989; Mies 1993; Haig 1997, 1999; De Laine 2000):

- The replacement of quantitative, positivist, objective research with qualitative, interpretive, ethnographic reflexive research, as objectivity in quantitative research is a smokescreen for masculine interests and agendas.
- Collaborative, collectivist research undertaken by collectives – often of women – combining researchers and researched in order to break subject–object and hierarchical, non-reciprocal relationships.
- The appeal to alleged value-free, neutral, indifferent and impartial research has to be replaced by conscious, deliberate partiality – through researchers identifying with participants.
- The use of ideology-critical approaches and paradigms for research.
- The spectator theory or contemplative theory of knowledge in which researchers research from ivory towers has to be replaced by a participatory approach – perhaps action research – in which all participants (including researchers) engage in the struggle for women's emancipation – a liberatory methodology.
- The need to change the status quo is the starting point for social research – if we want to know something we change it. (Mies (1993) cites the Chinese saying that if you want to know a pear then you must chew it!)
- The extended use of triangulation and multiple methods (including visual techniques such as video, photograph and film).
- The use of linguistic techniques such as conversational analysis.

- The use of textual analysis such as deconstruction of documents and texts about women.
- The use of meta-analysis to synthesize findings from individual studies (see Chapter 13).
- A move away from numerical surveys and a critical evaluation of them, including a critique of question wording.

Edwards and Mauthner (2002: 15, 27) characterize feminist research as that which concerns a critique of dominatory and value-free research, the surfacing and rejection of exploitative power hierarchies between the researcher and the participants, and the espousal of close – even intimate – relationships between the researcher and the researched. Positivist research is rejected as *per se* oppressive (Gillies and Alldred 2002: 34) and inherently unable to abide by its own principle of objectivity; it is a flawed epistemology. Research, and its underpinning epistemologies, are rooted in, and inseparable from interests (Habermas 1972).

The move is towards 'participatory action research' in which empowerment and emancipation are promoted and which is an involved and collaborative process (e.g. De Laine 2000: 109 ff.). Participation recognizes 'power imbalances and the need to engage oppressed people as agents of their own change' (Ezzy 2002: 44), while action research recognizes the value of 'using research findings to inform intervention decisions' (p. 44). As De Laine (2000: 16) writes: the call is 'for more participation and less observation, of *being with* and *for* the other, not *looking at*', with relations of reciprocity and equality rather than impersonality, exploitation and power/status differentials between researcher and participants.

The relationship between the researcher and participant, De Laine argues, must break a conventional patriarchy. The emphasis is on partnerships between researchers and participants, to the extent that researchers are themselves participants rather than outsiders and the participants shape the research process as co-researchers (De Laine 2000: 107), defining the problem, the methods, the data collection and analysis, interpretation and dissemination. The

relationship between researchers and participants is one of equality, and outsider, objective, distant, positivist research relations are off the agenda; researchers are inextricably bound up in the lives of those they research. That this may bring difficulties in participant and researcher reactivity is a matter to be engaged rather than built out of the research.

Thapar-Björkert and Henry (2004) argue that the conventional, one-sided and unidirectional view of the researcher as powerful and the research participants as less powerful, with the researcher exploiting and manipulating the researched, could be a construction by western white researchers. They report research that indicates that power is exercised by the researched as well as the researchers, and is a much more fluid, shifting and negotiated matter than conventionally suggested, being dispersed through both the researcher and the researched. Indeed they show how the research participants can, and do, exercise considerable power over the researchers both before, during and after the research process. They provide a fascinating example of interviewing women in their homes in India, where, far from the home being a location of oppression, it was a site of their power and control.

With regard to methods of data collection, Oakley (1981) suggests that 'interviewing women' in the standardized, impersonal style which expects a response to a prescribed agenda and set of questions may be a 'contradiction in terms', as it implies an exploitative relationship. Rather, the subject-object relationship should be replaced by a guided dialogue. She criticizes the conventional notion of 'rapport' in conducting interviews (Oakley 1981: 35), arguing that they are instrumental, non-reciprocal and hierarchical, all of which are masculine traits. Rapport in this sense, she argues, is not genuine in that the researcher is using it for scientific rather than human ends (Oakley 1981: 55). Here researchers are 'faking friendship' for their own ends (Duncombe and Jessop 2002: 108), equating 'doing rapport' with trust, and, thereby, operating a very 'detached' form of friendship (p. 110). Similarly Thapar-Björkert and Henry (2004) suggest that attempts

at friendship between researchers and participants are disingenuous, with 'purported solidarity' being a fraud perpetrated by well-intentioned feminists.

Duncombe and Jessop (2002: 111) ask a very searching question when they question whether, if interviewees are persuaded to take part in an interview by virtue of the researcher's demonstration of empathy and 'rapport', this is really giving informed consent. They suggest that informed consent, particularly in exploratory interviews, has to be continually renegotiated and care has to be taken by the interviewer not to be too intrusive. Personal testimonies, oral narratives and long interviews also figure highly in feminist approaches (De Laine 2000: 110; Thapar-Björkert and Henry 2004), not least in those that touch on sensitive issues. These, it is argued (Ezzy 2002: 45), enable women's voices to be heard, to be close to lived experiences, and avoid unwarranted assumptions about people's experiences.

The drive towards collective, egalitarian and emancipatory qualitative research is seen as necessary if women are to avoid colluding in their own oppression by undertaking positivist, uninvolved, dispassionate, objective research. Mies (1993: 67) argues that for women to undertake this latter form of research puts them into a schizophrenic position of having to adopt methods which contribute to their own subjugation and repression by ignoring their experience (however vicarious) of oppression and by forcing them to abide by the 'rules of the game' of the competitive, male-dominated academic world. In this view, argue Roman and Apple (1990: 59), it is not enough for women simply to embrace ethnographic forms of research, as this does not necessarily challenge the existing and constituting forces of oppression or asymmetries of power. Ethnographic research, they argue, has to be accompanied by ideology critique; indeed they argue that the transformative, empowering, emancipatory potential of research is a critical standard for evaluating that piece of research.

This latter point resonates with the call by Lather (1991) for researchers to be concerned with the political consequences of their research (e.g. consequential validity), not only the conduct of the research and data analysis itself.

Research must lead to change and improvement, particularly, in this context, for women (Gillies and Alldred 2002: 32). Research is a political activity with a political agenda (Gillies and Alldred 2002: 33; see also Lather 1991). Research and action – praxis – must combine 'knowledge for' as well as 'knowledge what' (Ezzy 2002: 47). As Marx reminds us in his *Theses on Feuerbach*: 'the philosophers have only interpreted the world, in various ways; the point, however, is to change it'. Gillies and Alldred (2002: 45), however, point out that 'many feminists have agonized over whether politicizing participants is necessarily helpful', as it raises awareness of constraints on their actions without being able to offer solutions or to challenge their structural causes. Research, thus politicized but unable to change conditions, may actually be disempowering and, indeed, patronizing in its simplistic call for enlightenment and emancipation. It could render women more vulnerable than before. Emancipation is a struggle.

Several of these views of feminist research and methodology are contested by other feminist researchers. For example, Jayaratne (1993: 109) argues for 'fitness for purpose', suggesting that exclusive focus on qualitative methodologies might not be appropriate either for the research purposes or, indeed, for advancing the feminist agenda (see also Scott 1985: 82-3). Jayaratne refutes the argument that quantitative methods are unsuitable for feminists because they neglect the emotions of the people under study. Indeed she argues for beating quantitative research on its own grounds (Jayaratne 1993: 121), suggesting the need for feminist quantitative data and methodologies in order to counter sexist quantitative data in the social sciences. She suggests that feminist researchers can accomplish this without 'selling out' to the positivist, male-dominated academic research community. Oakley (1998) suggests that the separation of women from quantitative methodology may have the unintended effect of perpetuating women as the 'other', and, thereby, discriminating against them.

De Laine (2000: 112) argues that shifting from quantitative to qualitative techniques may not

solve many ethical problems in research, as these are endemic in any form of fieldwork. She argues that some feminist researchers may not wish to seek either less participation or more detachment, and that more detachment and less participation are not solutions to ethical dilemmas and 'morally responsible fieldwork' as these, too, bring their own ethical dilemmas, e.g. the risk of threat. She reports work (p. 113) that suggests that close relationships between researchers and participants may be construed as just as exploitative, if more disguised, as conventional researcher roles, and that they may bring considerable problems if data that were revealed in an intimate account between friends (researcher and participant) are then used in public research. The researcher is caught in a dilemma: if she is a true friend then this imposes constraints on the researcher, and yet if she is only pretending to be a friend, or limiting that friendship, then this provokes questions of honesty and personal integrity. Are research friendships real, ephemeral, or impression management used to gather data?

De Laine (2000: 115) suggests that it may be misguided to privilege qualitative research for its claim to non-exploitative relationships. While she acknowledges that quantitative approaches may perpetuate power differentials and exploitation, there is no guarantee that qualitative research will not do the same, only in a more disguised way. Qualitative approaches too, she suggests, can create and perpetuate unequal relations, not least simply because the researcher is in the field *qua* researcher rather than a friend; if it were not for the research then the researcher would not be present. Stacey (1988) suggests that the intimacy advocated for feminist ethnography may render exploitative relationships more rather than less likely. We refer readers to Chapter 5 on sensitive educational research for a further discussion of these issues.

Gillies and Alldred (2002: 43-6) suggest that action research, an area strongly supported in some quarters of feminist researchers, is, itself, problematic. It risks being an intervention in people's lives (i.e. a potential abuse of power), and the researcher typically plays a significant, if not

central, role in initiating, facilitating, crystallizing and developing the meanings involved in, or stemming from, the research, i.e. the researcher is the one exercising power and influence.

Ezzy (2002: 44) reports that, just as there is no single feminist methodology, both quantitative and qualitative methods are entirely legitimate. Indeed, Kelly (1978) argues that a feminist commitment should enter research at the stages of formulating the research topic and interpreting the results, but it should be left out during the stages of data collection and conduct of the research.

Thapar-Björkert and Henry (2004) indicate that the researcher being an outsider might bring more advantages than if she were an insider. For example, being a white female researching non-white females may not be a handicap, as many non-white women might disclose information to white women that they would not disclose to a non-white person. Similarly, having interviewers and interviewees of the same racial and ethnic background does not mean that non-hierarchical relationships will still not be present. They also report that the categories of 'insider' and 'outsider' were much more fuzzy than exclusive. Researchers are both 'subject' and 'object', and those being researched are both 'observed' and 'observers'.

De Laine (2000: 110) suggests that there is a division among feminists between those who advocate closeness in relationships between researchers and subjects – a human researching fellow humans – and those who advocate 'respectful distance' between researchers and those being studied. Close relationships may turn into quasi-therapeutic situations rather than research (Duncombe and Jessop 2002: 111), yet it may be important to establish closeness in reaching deeper issues. Further, one has to question how far close relationships lead to reciprocal and mutual disclosure (p. 120). The debate is open: should the researcher share, be close and be prepared for more intimate social relations – a 'feminist ethic of care' (p. 111) – or keep those cool, outsider relations which might objectify those being researched? It is a moral as well as a methodological matter.

The issue runs deep: the suggestion is that emotions and feelings are integral to the research,

rather than to be built out of the research in the interests of objectivity (Edwards and Mauthner 2002: 19). Emotions should not be seen as disruptive of research or as irrelevant (De Laine 2000: 151–2), but central to it, just as they are central to human life. Indeed emotional responses are essential in establishing the veracity of inquiries and data, and the 'feminist communitarian model' which De Laine (2000: 212–13) outlines values connectedness at several levels: emotions, emotionality and personal expressiveness, empathy. The egalitarian feminism that De Laine (2000: 108) and others advocate suggests a community of insiders in the same culture, in which empathy, reciprocity and egalitarianism are hallmarks.

Swantz (1996: 134) argues that there may be some self-deception by the researcher in adopting a dual role as a researcher and one who shares the situation and interests of the participants. She questions the extent to which the researcher may be able to be genuinely involved with the participants in other than a peripheral way and whether, simply because the researcher may have 'superior knowledge', a covert power differential may exist. De Laine (2000: 114) suggests that such superior knowledge may stem from the researcher's own background in anthropology or ethnography, or simply more education. The primary purpose of the researcher is research, and that is different from the primary purpose of the participants.

Further, the researcher's desire for identification and solidarity with her research subjects may be pious but unrealistic optimism, not least because she may not share the same race, ethnicity, background, life chances, experiences or colour as those being researched. Indeed Gillies and Alldred (2002: 39–40) raise the question of how far researchers can, or should, try to represent groups to which they themselves do not belong, not least those groups without power or voice, as this, itself, is a form of colonization and oppression. Affinity, they argue (p. 40), is no authoritative basis for representative research. Even the notion of affinity becomes suspect when it overlooks, or underplays, the significance of difference, thereby homogenizing groups and their

particular experiences. In response to this, some feminist researchers (p. 40) suggest that researchers only have the warrant to confine themselves to their own immediate communities, though this is a contentious issue. There is value in speaking for others, not least for those who are silenced and marginalized, and in not speaking for others for fear of oppression and colonization. One has to question the acceptability and appropriateness of, and fidelity to, the feminist ethic, if one represents and uses others' stories (p. 41).

An example of a feminist approach to research is the Girls Into Science and Technology (GIST) action research project. This took place over three years, involving 2,000 students and their teachers in ten coeducational, comprehensive schools in one area of the United Kingdom, eight schools serving as the bases of the 'action', the remaining two acting as 'controls'. Several publications have documented the methodologies and findings of the GIST study (Kelly 1986; 1989a; 1989b; Kelly and Smail 1986; Whyte 1986), described by its co-director as 'simultaneous-integrated action research' (Kelly 1987) (i.e. integrating action and research). Kelly is open about the feminist orientation of the GIST project team, seeking deliberately to change girls' option choices and career aspirations, because the researchers saw that girls were disadvantaged by traditional sex-stereotypes. The researchers' actions, she suggests, were a small attempt to ameliorate women's subordinate social position (Kelly 1987).

Research and evaluation

The preceding discussion has suggested that research and politics are inextricably bound together. This can be taken further, as researchers in education will be advised to pay serious consideration to the politics of their research enterprise and the ways in which politics can steer research. For example, one can detect a trend in educational research towards more evaluative research, where, for example, a researcher's task is to evaluate the effectiveness (often of the implementation) of given policies and projects. This is particularly true in the

case of 'categorically funded' and commissioned research – research which is funded by policy-makers (e.g. governments, fund-awarding bodies) under any number of different headings that those policy-makers devise (Burgess 1993). On the one hand, this is laudable, for it targets research directly towards policy; on the other hand, it is dangerous in that it enables others to set the research agenda. Research ceases to become open-ended, pure research, and, instead, becomes the evaluation of *given* initiatives. Less politically charged, much research is evaluative, and indeed there are many similarities between research and evaluation. The two overlap but possess important differences. The problem of trying to identify differences between evaluation and research is compounded because not only do they share several of the same methodological characteristics but also one branch of research is called *evaluative research* or *applied research*. This is often kept separate from 'blue skies' research in that the latter is open-ended, exploratory, contributes something original to the substantive field and extends the frontiers of knowledge and theory whereas in the former the theory is *given* rather than *interrogated* or *tested*. One can detect many similarities between the two in that they both use methodologies and methods of social science research generally, covering, for example (see <http://www.routledge.com/textbooks/9780415368780> – Chapter 1, file 1.9. ppt), the following:

- the need to clarify the *purposes* of the investigation
- the need to *operationalize* purposes and areas of investigation
- the need to address principles of *research design* that include:
 - formulating *operational questions*
 - deciding appropriate *methodologies*
 - deciding which *instruments* to use for data collection
 - deciding on the *sample* for the investigation
 - addressing *reliability* and *validity* in the investigation and instrumentation

- addressing *ethical* issues in conducting the investigation
- deciding on *data analysis* techniques
- deciding on *reporting* and *interpreting* results.

Indeed Norris (1990) argues that evaluation applies research methods to shed light on a problem of action (Norris 1990: 97); he suggests that evaluation can be viewed as an extension of research, because it shares its methodologies and methods, and because evaluators and researchers possess similar skills in conducting investigations (see <http://www.routledge.com/textbooks/9780415368780> – Chapter 1, file 1.10. ppt). In many senses the eight features outlined above embrace many elements of the *scientific method*, which Smith and Glass (1987) set out in seven steps:

- 1 A *theory* about the phenomenon exists.
- 2 A *research problem* within the theory is detected and a *research question* is devised.
- 3 A *research hypothesis* is deduced (often about the relationship between constructs).
- 4 A *research design* is developed, *operationalizing* the research question and stating the *null hypothesis*.
- 5 The research is conducted.
- 6 The null hypothesis is tested based on the data gathered.
- 7 The original theory is revised or supported based on the results of the hypothesis testing.

Indeed, if steps 1 and 7 were removed then there would be nothing to distinguish between research and evaluation. Both researchers and evaluators pose questions and hypotheses, select samples, manipulate and measure variables, compute statistics and data, and state conclusions. Nevertheless there are important differences between evaluation and research that are not always obvious simply by looking at publications. Publications do not always make clear the background events that gave rise to the investigation, nor do they always make clear the uses of the material that they report, nor do they always make clear what the dissemination rights (Sanday 1993) are and who holds them. Several commentators

set out some of the differences between evaluation and research. For example Smith and Glass (1987) offer eight main differences (see <http://www.routledge.com/textbooks/9780415368780> – Chapter 1, file 1.11. ppt):

- *The intents and purposes of the investigation*: the researcher wants to advance the frontiers of knowledge of phenomena, to contribute to theory and to be able to make generalizations; the evaluator is less interested in contributing to theory or the general body of knowledge. Evaluation is more parochial than universal (Smith and Glass 1987: 33–4).
- *The scope of the investigation*: evaluation studies tend to be more comprehensive than research in the number and variety of aspects of a programme that are being studied (p. 34).
- *Values in the investigation*: research aspires to value neutrality, evaluations must represent multiple sets of values and include data on these values.
- *The origins of the study*: research has its origins and motivation in the researcher's curiosity and desire to know (p. 34). The researcher is answerable to colleagues and scientists (i.e. the research community) whereas the evaluator is answerable to the 'client'. The researcher is answerable to clients and stakeholders. The researcher is motivated by a search for knowledge, the evaluator is motivated by the need to solve problems, allocate resources and make decisions. Research studies are public, evaluations are for a restricted audience.
- *The uses of the study*: the research is used to further knowledge, evaluations are used to inform decisions.
- *The timeliness of the study*: evaluations must be timely, research need not be. Evaluators' time scales are given, researchers' time scales need not be given.
- *Criteria for judging the study*: evaluations are judged by the criteria of utility and credibility, research is judged methodologically and by the contribution that it makes to the field (i.e. internal and external validity).

- *The agendas of the study:* an evaluator's agenda is given, a researcher's agenda is his or her own.

Norris (1990) reports an earlier piece of work by Glass and Worthen (1971) in which they identified eleven main differences between evaluation and research:

- *The motivation of the inquirer:* research is pursued largely to satisfy curiosity, evaluation is undertaken to contribute to the solution of a problem.
- *The objectives of the research:* research and evaluation seek different ends. Research seeks conclusions, evaluation leads to decisions.
- *Laws versus description:* research is the quest for laws (nomothetic), evaluation merely seeks to describe a particular thing (idiographic).
- *The role of explanation:* proper and useful evaluation can be conducted without producing an explanation of why the product or project is good or bad or of how it operates to produce its effects.
- *The autonomy of the inquiry:* evaluation is undertaken at the behest of a client, while researchers set their own problems.
- *Properties of the phenomena that are assessed:* evaluation seeks to assess social utility directly, research may yield evidence of social utility but often only indirectly.
- *Universality of the phenomena studied:* researchers work with constructs having a currency and scope of application that make the objects of evaluation seem parochial by comparison.
- *Salience of the value question:* in evaluation value questions are central and usually determine what information is sought.
- *Investigative techniques:* while there may be legitimate differences between research and evaluation methods, there are far more similarities than differences with regard to techniques and procedures for judging validity.
- *Criteria for assessing the activity:* the two most important criteria for judging the adequacy of research are internal and external validity, for evaluation they are utility and credibility.

- *Disciplinary base:* the researcher can afford to pursue inquiry within one discipline and the evaluator cannot.

A clue to some of the differences between evaluation and research can be seen in the definition of evaluation. Most definitions of evaluation include reference to several key features:

- answering specific, given questions
- gathering information
- making judgements
- taking decisions
- addressing the politics of a situation (Morrison 1993: 2).

(See <http://www.routledge.com/textbooks/9780415368780> – Chapter 1, file 1.12. ppt.) Morrison (1993: 2) provides one definition of evaluation as: *the provision of information about specified issues upon which judgements are based and from which decisions for action are taken*. This view echoes MacDonald (1987) in his comments that the evaluator

is faced with competing interest groups, with divergent definitions of the situation and conflicting informational needs... He has to decide which decision-makers he will serve, what information will be of most use, when it is needed and how it can be obtained... The resolution of these issues commits the evaluator to a political stance, an attitude to the government of education. No such commitment is required of the researcher. He stands outside the political process, and values his detachment from it. For him the production of new knowledge and its social use are separated. The evaluator is embroiled in the action, built into a political process which concerns the distribution of power, i.e. the allocation of resources and the determination of goals, roles and tasks... When evaluation data influences power relationships the evaluator is compelled to weigh carefully the consequences of his task specification... The researcher is free to select his questions, and to seek answers to them. The evaluator, on the other hand, must never fall into the error of answering questions which no one but he is asking. (MacDonald 1987, 42)

MacDonald (1987) argues that evaluation is an inherently political enterprise. His much-used threefold typification of evaluations as autocratic, bureaucratic and democratic is premised on a political reading of evaluation (see also Chelinsky and Mulhauser (1993: 54) who refer to 'the inescapability of politics' in the world of evaluation). MacDonald (1987: 101), noting that 'educational research is becoming more evaluative in character', argues for research to be kept out of politics and for evaluation to square up to the political issues at stake:

The danger therefore of conceptualizing evaluation as a branch of research is that evaluators become trapped in the restrictive tentacles of research respectability. Purity may be substituted for utility, trivial proofs for clumsy attempts to grasp complex significance. How much more productive it would be to define research as a branch of evaluation, a branch whose task it is to solve the technological problems encountered by the evaluator.

(MacDonald 1987: 43)

However, the truth of the matter is far more blurred than these distinctions suggest. Two principal causes of this blurring lie in the funding and the politics of both evaluation and research. For example, the view of research as uncontaminated by everyday life is naïve and simplistic; Norris (1990: 99) argues that such an antiseptic view of research ignores the social context of educational research, some of which is located in the hierarchies of universities and research communities and the funding support provided for some research projects but not all by governments. His point has a pedigree that reaches back to Kuhn (1962), and is commenting on the politics of research funding and research utilization. Since the early 1980s one can detect a huge rise in 'categorical' funding of projects, i.e. defined, given projects (often by government or research sponsors) for which bids have to be placed. This may seem unsurprising if one is discussing research grants by government bodies, which are deliberately policy-oriented, though one can also detect in projects that have been granted by non-governmental organizations

(e.g. the UK Economic and Social Research Council) a move towards sponsoring policy-oriented projects rather than the 'blue-skies' research mentioned earlier. Indeed Burgess (1993: 1) argues that 'researchers are little more than contract workers... research in education must become policy relevant... research must come closer to the requirement of practitioners'.

This view is reinforced by several chapters in the collection edited by Anderson and Biddle (1991) which show that research and politics go together uncomfortably because researchers have different agendas and longer time scales than politicians and try to address the complexity of situations, whereas politicians, anxious for short-term survival want telescoped time scales, simple remedies and research that will be consonant with their political agendas. Indeed James (1993) argues that

the power of research-based evaluation to provide evidence on which rational decisions can be expected to be made is quite limited. Policy-makers will always find reasons to ignore, or be highly selective of, evaluation findings if the information does not support the particular political agenda operating at the time when decisions have to be made.

(James 1993: 135)

The politicization of research has resulted in funding bodies awarding research grants for categorical research that specify time scales and the terms of reference. Burgess's (1993) view also points to the constraints under which research is undertaken; if it is not concerned with policy issues then research tends not to be funded. One could support Burgess's view that research must have some impact on policy-making.

Not only is research becoming a political issue, but also this extends to the use being made of evaluation studies. It was argued above that evaluations are designed to provide useful data to inform decision-making. However, as evaluation has become more politicized so its uses (or non-uses) have become more politicized. Indeed Norris (1990) shows how politics frequently overrides evaluation or research evidence. Norris (1990: 135) writes that the announcement of the decision

to extend the TVEI project was made without any evaluation reports having been received from evaluation teams in Leeds or the National Foundation for Educational Research. (The Technical and Vocational Education Initiative (TVEI) was a 1980s UK government-funded project frequently targeted to lower-attaining students.) This echoes James (1993) where she writes:

The classic definition of the role of evaluation as providing information for decision-makers... is a fiction if this is taken to mean that policy-makers who commission evaluations are expected to make rational decisions based on the best (valid and reliable) information available to them.

(James 1993: 119)

Where evaluations are commissioned and have heavily political implications, Stronach and Morris (1994) argue that the response to this is that evaluations become more 'conformative' (see <http://www.routledge.com/textbooks/9780415368780> – Chapter 1, file 1.13. ppt), possessing several characteristics:

- Being short-term, taking project goals as given and supporting their realization.
- Ignoring the evaluation of longer-term learning outcomes, or anticipated economic or social consequences of the programme.
- Giving undue weight to the perceptions of programme participants who are responsible for the successful development and implementation of the programme; as a result, tending to 'over-report' change.
- Neglecting and 'under-reporting' the views of classroom practitioners, and programme critics.
- Adopting an atheoretical approach, and generally regarding the aggregation of opinion as the determination of overall significance.
- Involving a tight contractual relationship with the programme sponsors that either disbars public reporting, or encourages self-censorship in order to protect future funding prospects.
- Undertaking various forms of implicit advocacy for the programme in its reporting style.
- Creating and reinforcing a professional schizophrenia in the research and evaluation

community, whereby individuals come to hold divergent public and private opinions, or offer criticisms in general rather than in particular, or quietly develop 'academic' critiques which are at variance with their contractual evaluation activities, alternating between 'critical' and 'conformative' selves.

The argument so far has been confined to large-scale projects that are influenced by and may or may not influence political decision-making. However, the argument need not remain there. Morrison (1993), for example, indicates how evaluations might influence the 'micro-politics of the school'. Hoyle (1986), for example, asks whether evaluation data are used to bring resources into, or take resources out of, a department or faculty. The issue does not relate only to evaluations, for school-based research, far from the emancipatory claims for it made by action researchers (e.g. Carr and Kemmis 1986; Grundy 1987), is often concerned more with finding out the most successful ways of organization, planning, teaching and assessment of a *given agenda* rather than *setting agendas* and following one's own research agendas. This is *problem-solving* rather than *problem-setting*. That evaluation and research are being drawn together by politics at both macro-level and micro-level is evidence of a growing interventionism by politics into education, thus reinforcing the hegemony of the government in power. Several points have been made here:

- There is considerable overlap between evaluation and research.
- There are some *conceptual* differences between evaluation and research, though, in practice, there is considerable blurring of the edges of the differences between the two.
- The funding and control of research and research agendas reflect the persuasions of political decision-makers.
- Evaluative research has increased in response to categorical funding of research projects.
- The attention being given to, and utilization of, evaluation varies according to the consonance between the findings and their political attractiveness to political decision-makers.

In this sense the views expressed earlier by MacDonald (1987) are now little more than an historical relic; there is very considerable blurring of the edges between evaluation and research because of the political intrusion into, and use of, these two types of study. One response to this can be seen in Burgess's (1993) view that a researcher needs to be able to meet the sponsor's requirements for evaluation while also generating research data (engaging the issues of the need to negotiate ownership of the data and intellectual property rights).

Research, politics and policy-making

The preceding discussion has suggested that there is an inescapable political dimension to educational research, both in the macro- and micro-political senses. In the macro-political sense this manifests itself in funding arrangements, where awards are made provided that the research is 'policy-related' (Burgess 1993) – guiding policy decisions, improving quality in areas of concern identified by policy-makers, facilitating the implementation of policy decisions, evaluating the effects of the implementation of policy. Burgess notes a shift here from a situation where the researcher specifies the topic of research and towards the sponsor specifying the focus of research. The issue of sponsoring research reaches beyond simply commissioning research towards the dissemination (or not) of research – who will receive or have access to the findings and how the findings will be used and reported. This, in turn, raises the fundamental issue of who owns and controls data, and who controls the release of research findings. Unfavourable reports might be withheld for a time, suppressed or selectively released! Research can be brought into the service of wider educational purposes – the politics of a local education authority, or indeed the politics of government agencies.

Though research and politics intertwine, the relationships between educational research, politics and policy-making are complex because research designs strive to address a complex social reality (Anderson and Biddle 1991); a

piece of research does not feed simplistically or directly into a specific piece of policy-making. Rather, research generates a range of different types of knowledge – concepts, propositions, explanations, theories, strategies, evidence, methodologies (Caplan 1991). These feed subtly and often indirectly into the decision-making process, providing, for example, direct inputs, general guidance, a scientific gloss, orienting perspectives, generalizations and new insights. Basic and applied research have significant parts to play in this process.

The degree of influence exerted by research depends on careful dissemination; too little and its message is ignored, too much and data overload confounds decision-makers and makes them cynical – the syndrome of the boy who cried wolf (Knott and Wildavsky 1991). Hence researchers must give care to utilization by policy-makers (Weiss 1991a), reduce jargon, provide summaries, and improve links between the two cultures of researchers and policy-makers (Cook 1991) and, further, to the educational community. Researchers must cultivate ways of influencing policy, particularly when policy-makers can simply ignore research findings, commission their own research (Cohen and Garret 1991) or underfund research into social problems (Coleman 1991; Thomas 1991). Researchers must recognize their links with the power groups who decide policy. Research utilization takes many forms depending on its location in the process of policy-making, e.g. in research and development, problem solving, interactive and tactical models (Weiss 1991b). Researchers will have to judge the most appropriate forms of utilization of their research (Alkin *et al.* 1991).

The impact of research on policy-making depends on its degree of consonance with the political agendas of governments (Thomas 1991) and policy-makers anxious for their own political survival (Cook 1991) and the promotion of their social programmes. Research is used if it is politically acceptable. That the impact of research on policy is intensely and inescapably political is a truism (Horowitz and Katz 1991; Kamin 1991; Selleck 1991; Wineburg 1991). Research

too easily becomes simply an 'affirmatory text' which 'exonerates the system' (Wineburg 1991) and is used by those who seek to hear in it only echoes of their own voices and wishes (Kogan and Atkin 1991).

There is a significant tension between researchers and policy-makers. The two parties have different, and often conflicting, interests, agendas, audiences, time scales, terminology, and concern for topicality (Levin 1991). These have huge implications for research styles. Policy-makers anxious for the quick fix of superficial facts, short-term solutions and simple remedies for complex and generalized social problems (Cartwright 1991; Cook 1991) – the Simple Impact model (Biddle and Anderson 1991; Weiss 1991a; 1991b) – find positivist methodologies attractive, often debasing the data through illegitimate summary. Moreover, policy-makers find much research uncertain in its effects (Cohen and Garet 1991; Kerlinger 1991), dealing in a *Weltanschauung* rather than specifics, and being too complex in its designs and of limited applicability (Finn 1991). This, reply the researchers, misrepresents the nature of their work (Shavelson and Berliner 1991) and belies the complex reality which they are trying to investigate (Blalock 1991). Capturing social complexity and serving political utility can run counter to each other.

The issue of the connection between research and politics – power and decision-making – is complex. On another dimension, the notion that research is inherently a political act because it is part of the political processes of society has not been lost on researchers. Usher and Scott (1996: 176) argue that positivist research has allowed a traditional conception of society to be preserved relatively unchallenged – the white, male, middle-class researcher – to the relative exclusion of 'others' as legitimate knowers. That this reaches into epistemological debate is evidenced in the issues of who defines the 'traditions of knowledge' and the disciplines of knowledge; the social construction of knowledge has to take into account the differential power of groups to define what is

worthwhile research knowledge, what constitutes acceptable focuses and methodologies of research and how the findings will be used.

Methods and methodology

We return to our principal concern, methods and methodology in educational research. By methods, we mean that range of approaches used in educational research to gather data which are to be used as a basis for inference and interpretation, for explanation and prediction. Traditionally, the word refers to those techniques associated with the positivistic model – eliciting responses to predetermined questions, recording measurements, describing phenomena and performing experiments. For our purposes, we will extend the meaning to include not only the methods of normative research but also those associated with interpretive paradigms – participant observation, role-playing, non-directive interviewing, episodes and accounts. Although methods may also be taken to include the more specific features of the scientific enterprise such as forming concepts and hypotheses, building models and theories, and sampling procedures, we will limit ourselves principally to the more general techniques which researchers use.

If methods refer to techniques and procedures used in the process of data-gathering, the aim of methodology then is to describe approaches to, kinds and paradigms of research (Kaplan 1973). Kaplan suggests that the aim of methodology is to help us to understand, in the broadest possible terms, not the products of scientific inquiry but the process itself.

We, for our part, will attempt to present normative and interpretive perspectives in a complementary light and will try to lessen the tension that is sometimes generated between them. Merton and Kendall (1946)⁷ express the same sentiment:

Social scientists have come to abandon the spurious choice between qualitative and quantitative data; they are concerned rather with that combination of both which makes use of the most valuable features of each. The problem becomes one of determining a

which points they should adopt the one, and at which the other, approach.

(Merton and Kendall 1946)

The term *research* itself may take on a range of meanings and thereby be legitimately applied to a variety of contexts from, say, an investigation into the techniques of Dutch painters of the seventeenth century to the problem of finding more efficient means of improving traffic flow in major city centres. For our purposes, however, we will restrict its usages to those activities and undertakings aimed at developing a science of behaviour, the word *science* itself implying both normative and interpretive perspectives. Accordingly, when we speak of social research,

we have in mind the systematic and scholarly application of the principles of a science of behaviour to the problems of people within their social contexts and when we use the term educational research, we likewise have in mind the application of these same principles to the problems of teaching and learning within the formal educational framework and to the clarification of issues having direct or indirect bearing on these concepts.

The particular value of scientific research in education is that it will enable educators to develop the kind of sound knowledge base that characterizes other professions and disciplines; and one that will ensure education a maturity and sense of progression it at present lacks.

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