DOING RESEARCH *in the* REAL WORLD

THIRD EDITION

DAVID E. GRAY

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2

THEORETICAL PERSPECTIVES AND RESEARCH METHODOLOGIES

CHAPTER INTRODUCTION

Chapter outline

- Inductive and deductive reasoning 16
- Epistemological and ontological perspectives 19
- Theoretical perspectives 21
- Research methodologies 29
- Selecting research approaches and strategies 34

Keywords

- Inductive
- Deductive
- Epistemology
- Ontology
- Theory
- Objectivism
- Constructivism
- Subjectivism
- Research methodology

Chapter objectives

After reading this chapter you will be able to:

- Distinguish between ontology and epistemology in research.
- Distinguish between inductive and deductive methods.
- Explain the different perspectives taken by positivism and interpretivism.
- Describe the different research methodologies and the conditions for their selection.
- Distinguish between exploratory, descriptive, explanatory and interpretative research studies.

We saw in Chapter 1 that the research process requires us to engage at some stage with theoretical perspectives. Sometimes this will occur before undertaking the research (the **deductive approach**) and at other times after it (**inductive**). But the question remains: which theories? The purpose of this chapter is to examine the range of theoretical perspectives available, and also to provide some guidance as to which ones are most appropriate to the research project or task you are undertaking.

This is far from being a simple process. If you are relatively new to the study of philosophical perspectives, the nature of theories and their significance to research methodologies may not be instantly obvious. Furthermore, the nature and meaning of some philosophical perspectives is still contested and debated.

TOP TIP 2.1

At this stage it is suggested that you read this chapter without dwelling too much on individual sections. If some of the discussion seems rather abstract do not worry – keep going. It is suggested that you return to this chapter at a later stage when its relevance will, hopefully, be clearer and more easily absorbed.

INDUCTIVE AND DEDUCTIVE REASONING

INDUCTIVE & DEDUCTIVE REASONING

We have briefly examined the nature and uses of theory – but in research should we begin with theory, or should theory itself result from the research? Dewey (1933) outlines a general paradigm of enquiry that underpins the scientific approach, consisting of inductive discovery (**induction**) and deductive proof (**deduction**). Deduction begins with a universal view of a situation and works back to the particulars; in contrast, induction moves from fragmentary details to a connected view of a situation.

The deductive process

EXAMPLE OF DEDUCTIVE REASONING

The deductive approach moves towards **hypothesis** testing, after which the principle is confirmed, refuted or modified. These hypotheses present an assertion about two or more concepts that attempts to explain the relationship between them. Concepts themselves are abstract ideas that form the building blocks of hypotheses and theories. The first stage, therefore, is the elaboration of a set of principles or allied ideas that are then tested through **empirical** observation or experimentation.

Table 2.1 Summary of the deductive process within an organizational context

Stages in the deduction process	Actions taken	Example: media campaign to increase public awareness of AIDS
Organizational mission	Read and take into account.	We would start by looking at the aims of government health policy in respect to sexually transmitted diseases.
Theory	Select a theory or set of theories most appropriate to the subject under investigation.	Theoretical models might include aspects of communication theory, as well as public attitudes to risk.
Hypothesis	Produce a hypothesis (a testable proposition about the relationship between two or more concepts).	The hypothesis might state a relationship between a social media publicity campaign and heightened public awareness.
Operationalize	Specify what the researcher must do to measure a concept.	We would define and state how 'awareness' would be measured. Also, by 'public' do we mean everyone, or specifically targeted groups?
Testing by corroboration or attempted falsification	Compare observable data with the theory. If corroborated, the theory is assumed to have been established.	The hypothesis would suggest a relationship (for example a 6 month media campaign) and, say, a 20 per cent improvement in awareness among 'at risk' groups.
Examine outcomes	Accept or reject the hypothesis from the outcomes.	The statistical analysis would reveal whether the intended outcomes had been reached.
Modify theory (if necessary)	Modify theory if the hypothesis is rejected.	The results would also help determine if campaigns of this type actually work. The results would be compared to those achieved in previous, similar studies.

But before such experimentation can take place, underlying concepts must be operationalized (made measurable) in such a way that they can be observed to confirm that they have occurred. Hence, measures and indicators are created. For example, if research is to be conducted into doctor–patient communication and its impact on patient well-being, we would first have to establish an operational definition of 'communication' within the context of the doctor–patient relationship. Through the creation of operational indicators, there is a tendency to measure and collect data only on what can actually be observed; hence, subjective and intangible evidence is usually ruled out. Table 2.1 provides a summary of this process.

The inductive process

Through the inductive approach, plans are made for data collection, after which the data are analysed to see if any patterns emerge that suggest relationships between variables. From these observations it may be possible to construct generalizations, relationships and even theories. Through induction, the researcher moves towards discovering a binding principle, taking care not to jump to hasty **inferences** or

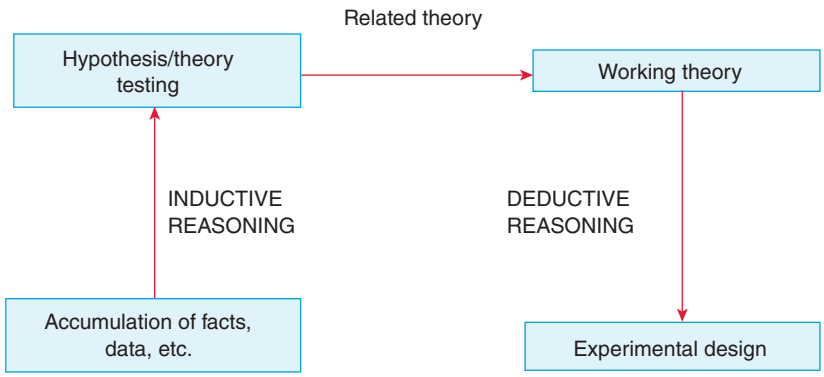

Figure 2.1 An illustration of how the inductive and deductive methods can be combined

conclusions on the basis of the data. To ensure a degree of reliability, the researcher often takes multiple cases or instances, through, for example, multiplying observations rather than basing conclusions on one case (see Figure 11.4, Chapter 11).

EXAMPLE OF INDUCTIVE RESEARCH

It would not be true to say that the inductive process takes absolutely no note of pre-existing theories or ideas when approaching a problem. The very fact that an issue has been selected for research implies judgements about what is an important subject for research, and these choices are dependent on values and concepts. This may help to formulate the overall purpose of the research. But the inductive approach does not set out to corroborate or falsify a theory. Instead, through a process of gathering data, it attempts to establish patterns, consistencies and meanings.

Combining the inductive and deductive methods

Inductive and deductive processes, however, are not mutually exclusive. Adapting Dewey's (1933) formulation to a modern problem, let us say a researcher has been asked to investigate the problem of staff absenteeism. Taking a selection of facts (absentee rates over time, in different departments and across staff grades), the researcher is able to formulate a theory (inductive approach) that absenteeism is related to working patterns (see Figure 2.1). It is particularly rife among lower grade workers who are the objects of quite rigorous supervision and control. The researcher then becomes interested in what other impact this form of control may have on working practices (deductive approach). A working hypothesis becomes formulated that over-zealous supervision has produced low morale and therefore low productivity levels among sections of the workforce. This hypothesis is tested by the introduction of new working methods in some sections, but not others (an experimental approach using a control group), to compare productivity levels between traditionally supervised sections and those using the new supervision methods. Figure 2.1 provides a summary of this process.

ACTIVITY 2.1

For your own research project, consider whether you intend to adopt an inductive approach, a deductive approach, or a combination of the two. List three reasons for your choice.

EPISTEMOLOGICAL AND ONTOLOGICAL PERSPECTIVES

We looked in Chapter 1 at the nature of theories and their relationship to practice. We now need to explore the range of theories available to us as researchers, and how we can select between them. As Crotty (1998) demonstrates, one of the problems here is not only the bewildering array of theoretical perspectives and methodologies, but the fact that the terminology applied to them is often inconsistent (or even contradictory). Crotty suggests that an interrelationship exists between the theoretical stance adopted by the researcher, the methodology and methods used, and the researcher's view of the **epistemology** (see Figure 2.2).

Despite the natural tendency for the researcher (and especially the novice researcher!) to select a data gathering method and get on with the job, the choice of methods will be influenced by the **research methodology** chosen. This methodology, in turn, will be influenced by the theoretical perspectives adopted by the researcher, and, in turn, by the researcher's epistemological stance. For example, researchers who decide at an early stage that they intend to use a structured questionnaire as part of a survey and to investigate associations between respondents' perspectives and the type of respondent (e.g. age, gender, etc.) are, whether they are aware of it or not, adopting an objectivist approach.

METHODOLOGY: WHO NEEDS IT?

Ontology is the study of being, that is, the nature of existence and what constitutes reality. So, for example, for positivists the world is independent of our knowledge of it – it exists 'out there' while for relativists and others, there are multiple realities and ways of accessing them. While ontology embodies understanding *what is*, epistemology tries to understand *what it means to know*. Epistemology provides a philosophical background for deciding what kinds of knowledge are legitimate and adequate. As Easterby-Smith et al. (2002) point out, having an epistemological

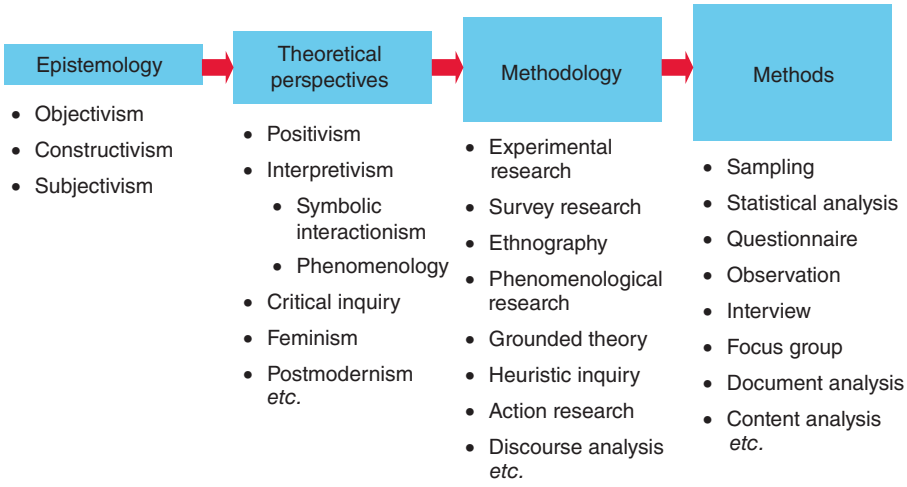

Figure 2.2 Relationship between epistemology, theoretical perspectives, methodology and research methods

Source: Adapted from Crotty, 1998

perspective is important for several reasons. First, it can help to clarify issues of research design. This means more than just the design of research tools. It means the overarching structure of the research including the kind of evidence that is being gathered, from where, and how it is going to be interpreted. Secondly, a knowledge of research philosophy will help the researcher to recognize which designs will work (for a given set of objectives) and which will not.

EPISTEMOLOGY & ONTOLOGY

Western thought remains divided by two opposing ontological traditions. Heraclitus (*c*.535–*c*.475BC), who lived in Ephesus in ancient Greece, placed an emphasis on a changing and emergent world. Parmenides (*c*.515–*c*.445BC), who succeeded him, placed quite a different emphasis on a permanent and unchanging reality. Between a Heraclitean ontology of *becoming* and a Parmenidean ontology of *being*, it is the latter that has held sway in Western philosophy. Hence, reality is seen as being composed of clearly formed entities with identifiable properties (in contrast to a Heraclitean emphasis on formlessness, chaos, interpenetration and absence). Once entities are held to be stable they can become represented by symbols, words and concepts. Thus a representationalist epistemology results in which signs and language are taken to be accurate representations of the external world. This representationalist epistemology orientates our thinking towards outcomes and end-states rather than processes of change. According to Chia (2002), only relatively recently has postmodern epistemology challenged traditional *being* ontology with notions of a *becoming* orientation and the limitations of truth-seeking.

It would be a mistake, however, to view *being* ontology as leading to epistemological positions that are unitary and holistic. As Figure 2.2 shows, at least three positions have emerged. Objectivist epistemology, for example, holds that reality exists independently of consciousness – in other words, there is an objective reality 'out there'. So, research is about discovering this objective truth. In doing this, researchers should strive not to include their own feelings and values. Objectivism, however, does not entail the rejection of subjectivity: we can study peoples' subjective views (their values, attitudes and beliefs) but we must do so objectively (Bunge, 1993).

A theoretical perspective closely linked to objectivism is **positivism** which argues that reality exists external to the researcher and must be investigated through the rigorous process of scientific inquiry. In contrast, **constructivism** rejects this view of human knowledge. Truth and meaning do not exist in some external world, but are created by the subject's interactions with the world. Meaning is *constructed* not discovered, so subjects construct their own meaning in different ways, even in relation to the same phenomenon. Hence, multiple, contradictory but equally valid accounts of the world can exist. A theoretical perspective linked to constructivism is interpretivism. Yet, while interpretivism and objectivism hold different epistemological positions, both are still based upon a *being* ontology (Chia, 2002).

PARADIGMS & META CRITERIA

In contrast to constructivism, for subjectivism, meaning does not emerge from the interplay between the subject and the outside world, but is imposed on the object by the subject. Subjects do construct meaning, but do so from within collective unconsciousness, from dreams, from religious beliefs, etc. Despite Crotty's assertion that this is 'the most slippery of terms' (1998: 183), postmodernism can be taken as an example of a theoretical perspective linked to subjectivism (and *becoming* ontology).

THEORETICAL PERSPECTIVES

Of the different theoretical perspectives available, positivism and various strands of interpretivism are, or have been (arguably) among the most influential. These, and a number of other stances such as critical inquiry, postmodernism and feminism, will be used here to illustrate the value of adopting theoretical perspectives that are congruent with the researcher's epistemology and demonstrate the kinds of research methodologies that emerge from them.

Positivism

Positivism was the dominant epistemological paradigm in social science from the 1930s through to the 1960s, its core argument being that the social world exists externally to the researcher, and that its properties can be measured directly through observation. In essence, positivism argues that:

POSITIVISM

- Reality consists of what is available to the senses – that is, what can be seen, smelt, touched, etc.
- Inquiry should be based upon scientific observation (as opposed to philosophical speculation), and therefore on empirical inquiry.
- The natural and human sciences share common logical and methodological principles, dealing with facts and not with values.

Hence, ideas only deserve their incorporation into knowledge if they can be put to the test of empirical experience. Positivists saw the natural sciences as progressing through the patient accumulation of facts about the world in order to produce generalizations known as scientific laws. To achieve this, the act of scientific inquiry was taken to be the accumulation of 'brute data' such as shape, size, motion, etc. For positivists, then, both the natural and social worlds operated within a strict set of laws, which science had to discover through empirical inquiry. This is a brief summary of positivism, but, as Bryman (2007a) notes, there have been many different versions of positivism which overlap, and which rarely agreed precisely on its essential components.

The case against positivism

Positivism has been described as 'one of the heroic failures of modern philosophy' (Williams and May, 1996: 27). As Hughes and Sharrock (1997) show, one of the fundamental mistakes of positivism is some of the assumptions it made about scientific inquiry. Science is, certainly, interested in producing theoretical explanations but not just on the basis of what can be observed. Indeed, some branches of science consist almost entirely of mathematical formulations. Black holes and subatomic particles, for example, have been reasoned from only the most indirect of evidence. Typically, science does not begin from observation, but from theory, to make observations intelligible. Thus, even observations are 'theory laden' (Williams and May, 1996).

Adopting a positivistic stance is not only about adopting certain approaches to the design of research studies. As Crotty (1998) points out, it implies that the results of research will tend to be presented as objective facts and established

truths. Popper (1968), however, suggests that no theory can ever be proved simply by multiple observations, since only one instance that refutes the theory would demonstrate it as false. According to Popper, theories cannot be proved to be true – they can only be proved to be false. Hence, with the deductive approach, theories are tested through observation, leading either to the falsification and discarding of the theory, or to the creation of, as yet, unfalsified laws.

Normal science consists of extending the knowledge of the facts that a **paradigm** suggests are especially important, by extending the match between those facts and the paradigm's predictions, and by further articulation of the paradigm itself. But normal science is a puzzle-solver and if it persistently fails to solve problems, then the failure of existing rules will lead to a search for new ones. This is part of what Kuhn (1996) has called a paradigm crisis. It is a crisis which may turn into a revolution if anomalies continue and new people enter the field, such as researchers who are not committed to the traditional rules of normal science and who are able to conceive of a new set of rules.

Case Study 2.1 provides an illustration of how stubbornly existing paradigms resist change – even in the face of emerging evidence that strongly contradicts their fundamental underpinning principles.

CASE STUDY 2.1

The conflict of paradigms

On 22 June 1633, Galileo Galilei was put on trial by the Inquisition in Rome. Charged with heresy, this old man of 69 was threatened with torture, imprisonment and even burning at the stake unless he renounced his claim that the Sun and not the Earth was the centre of the universe, and that the Earth moved around the Sun, and not vice versa.

The idea of an Earth-centred universe was first promulgated by Ptolemy of Alexandria in AD 150. The beauty of the Ptolemaic system was that it worked with some accuracy, enabling astronomers to predict, through complex geometry, the movements of the heavenly bodies. Later, these geocentric (Earth-centred) ideas became entrenched into the teachings of the Church, largely because they fitted neatly with the Christian notion of the centrality of mankind (Hellman, 1998). Hence, Ptolemaic theory became a combination of science, philosophy and religious ideas. Note the long-standing relationship between science and philosophy!

In 1543 Nicolaus Copernicus, a canon in the Polish Catholic Church, challenged the accepted Ptolemaic paradigm with a heliocentric (Sun-centred) system, but, as was traditional, his book was written in Latin and thus was not widely read. A century later, Galileo's repetition of these ideas in *Dialogue on the Great World Systems, Ptolemaic and Copernican* (1632) was written in Italian. As such it was widely accessible and seen by the Pope, Urban VIII, as a direct threat to the teachings of the Church.

Under the Inquisition's threats, Galileo recanted. These threats, after all, were not idle. A friend, Bruno, who had advocated the idea of an infinite universe, was tried by the Inquisition, refused to recant and was burned at the stake in 1600. Of course, the Church could not completely suppress the *Dialogue*. In fact, it was published in England before Galileo's death in 1642. But the trial before the Inquisition is an interesting example of the bitterness that can be generated when far-reaching new ideas come into open conflict with the vested interests of long-accepted paradigms – and the entrenched nature of these paradigms.

ACTIVITY 2.2

What kind of crisis would Kuhn call the events in Case Study 2.1? How were vested interests threatened by Galileo's ideas? Has this crisis been resolved?

We have seen that, at least in the social sciences, many of positivism's avowed certainties about the nature and results of scientific inquiry have been strongly challenged. It should be noted, however, that some of the approaches to research developed under positivism, such as an insistence on empirical inquiry, the use of experimental designs and inductive generalization (to name but three), are still with us (as we shall see in later chapters) in one form or other. In general, however, we now inhabit a **post-positivist** world in which a number of alternative perspectives (for example, anti-positivist, post-positivist and naturalistic) have emerged. Indeed, as Onwuegbuzie, Johnson and Collins (2009) make clear, today's practising quantitative researchers would regard themselves as post-positivists, holding that there is an independent reality to be studied, but that all observation is inherently fallible – we can only approximate the truth, never explaining it perfectly or completely. Hence, given the fallibility of observations, post-positivist research lays emphasis on inferential statistics with its emphasis on assigning *probabilities* that observed findings are correct (not certainties).

Interpretivism

A major anti-positivist stance is **interpretivism**, which looks for 'culturally derived and historically situated interpretations of the social life-world' (Crotty, 1998: 67). There is no, direct, one-to-one relationship between ourselves (subjects) and the world (object). The world is interpreted through the classification schemas of the mind (Williams and May, 1996). In terms of epistemology, interpretivism is closely linked to constructivism. Interpretivism asserts that natural reality (and the laws of science) and social reality are different and therefore require different kinds of method. While the natural sciences are looking for consistencies in the data in order to deduce 'laws' (**nomothetic**), the social sciences often deal with the actions of the individual (**ideographic**).

> Our interest in the social world tends to focus on exactly those aspects that are unique, individual and qualitative, whereas our interest in the natural world focuses on more abstract phenomena, that is, those exhibiting quantifiable, empirical regularities. (Crotty, 1998: 68)

Let us now look at five examples of the interpretivist approach: **symbolic interactionism**, **phenomenology, realism, hermeneutics** and naturalistic inquiry.

Symbolic interactionism

Symbolic interactionism grew in the 1930s out of the work of the American pragmatist philosophers, including John Dewey and the social psychologist George Herbert Mead. These philosophers shared a disenchantment with what they saw as

SYMBOLIC INTERACTIONISM

the irrelevance of contemporary philosophy and social science. Instead, they wanted to develop a way of conceptualizing human behaviour that focused on people's practices and lived realities. Central to social behaviour is the notion of meaning. Human interaction with the world is mediated through the process of meaning-making and interpretation. The essential tenets of symbolic interactionism are that:

- People interpret the meaning of objects and actions in the world and then act upon those interpretations.
- Meanings arise from the process of social interaction.
- Meanings are handled in, and are modified by, an interactive process used by people in dealing with the phenomena that are encountered.

Thus, meanings are not fixed or stable but are revised on the basis of experience. This includes the definition of 'self' and of who we are. For example, if someone is promoted from supervisor to manager their perception of themselves and the company may change, which in turn leads to changes in the meaning of objects, and thereby to changes in behaviour.

In order to understand this process, researchers have to study a subject's actions, objects and society from the perspective of the subject themselves. In practice, this can mean entering the field setting and observing at first-hand what is happening. The kinds of research methodologies that are often associated with symbolic interactionism include ethnography and the use of participative observation methods (Chapter 17) and grounded theory (Chapter 7).

Phenomenology

PHENOMENOLOGY

Phenomenology holds that any attempt to understand social reality has to be grounded in people's experiences of that social reality. Hence, phenomenology insists that we must lay aside our prevailing understanding of phenomena and revisit our immediate experience of them in order that new meanings may emerge. Current understandings have to be 'bracketed' to the best of our ability to allow phenomena to 'speak for themselves', unadulterated by our preconceptions. The result will be new meaning, fuller meaning or renewed meaning. Attempts are made to avoid ways in which the prejudices of researchers bias the data. The key is gaining the subjective experience of the subject, sometimes by trying to put oneself in the place of the subject. Hence, phenomenology becomes an exploration, via personal experience, of prevailing cultural understandings. Value is ascribed not only to the interpretations of researchers, but also to the subjects of the research themselves. Far from using a theoretical model that imposes an external logic on a phenomenon, this inductive approach seeks to find the internal logic of the subject. Table 2.2 provides a summary of some of the major distinctions between positivism and phenomenology.

Tesch (1994) distinguishes between phenomenological research and **ethnography**. While both are based upon description and interpretation, ethnographic research is focused more on culture and phenomenology, on human experience of the 'life-world'. So, while the **unit of analysis** of phenomenology is often individuals, ethnographers make use of 'sites'. Phenomenology makes use almost exclusively

Table 2.2 Summary of positivist and phenomenological paradigms

	Positivist paradigm	Phenomenological paradigm
Basic beliefs	The world is external and objective.	The world is socially constructed and subjective.
	The observer is independent.	The observer is a party to what is being observed.
	Science is value-free.	Science is driven by human interests.
The researcher should	Focus on facts	Focus on meanings
	Locate causality between variables	Try to understand what is happening
	Formulate and test hypotheses (deductive approach)	Construct theories and models from the data (inductive approach)
Methods include	Operationalizing concepts so that they can be measured	Using multiple methods to establish different views of a phenomenon
	Using large samples from which to generalize to the population	Using small samples researched in depth or over time
	Quantitative methods	Qualitative methods

Source: Adapted from Easterby-Smith et al., 2002

Table 2.3 Distinctions between phenomenological research and ethnography

Ethnography	Phenomenological research
Study of culture	Study of the 'lifeworld' human experience
Discovering the relationship between culture and behaviour	Exploring the personal construction of the individual's world
Studying 'sites'	Studying individuals
As many informants as possible	Between 5 and 15 'participants'
Use of observation, and some interviewing	Use of in-depth, unstructured interviews
Unit of analysis: event	Unit of analysis: meaning unit
Reliability: triangulation	Reliability: confirmation by participants

Source: Adapted from Tesch, 1994

of interviews, while ethnography's prime mode of data collection is observation (as a participant or outside observer), which is sometimes supplemented by interview data for clarification. Ethnographers pay particular attention to language and the ways in which terms are used in certain cultures. A summary of the distinctions between phenomenological research and ethnography is given in Table 2.3.

Realism

Realism begins from the position that the picture that science paints of the world is a true and accurate one (Chia, 2002). So for the realist researcher, objects of research such as 'culture', 'the organization', 'corporate planning' exist and act quite independently of the observer. They are therefore as available for systematic

REALISM

analysis as natural phenomena. Hence, knowledge is advanced through the process of theory-building in which discoveries add to what is already known. But although reality comprises entities, structures and events, realism holds that some observable 'facts' may be merely illusions. Conversely, there may be phenomena that cannot be observed but which exist none the less. In general, realism holds that there is an external reality 'out there' that can be measured – but achieving this can be difficult.

Madill, Jordan and Shirley (2000) distinguish between three realist epistemologies: naïve, scientific and critical. Naïve realism asserts a rather simplistic correspondence theory of truth in which the world is largely knowable and is, just as it appears to be – provided research methods and instruments are adequately crafted (Niiniluoto, 1999). Scientific realism considers that the scientific method can tap true representations of the world, although this may sometimes be fallible. Critical realism, however, contends that the way we perceive the world depends, in part, on our beliefs and expectations, one outcome being that the complete truth may be hard to come by (Bunge, 1993). Critical realism admits an inherent subjectivity in the production of knowledge and has much in common with constructionist positions (Madill et al., 2000).

In terms of methodology, pluralism is the 'gold standard' of realist research (Pawson and Tilley, 2001: 323). This means that nothing is ruled out, with methods being used according to opportunity and need. Hence, in a comparison of blood donation processes between market and non-market suppliers, Titmuss (1970) used a national survey of 3,800 blood donors, unstructured interviews, meta-analysis of previous studies, document analysis and statistics.

Hermeneutics

HERMENEUTICS

The hermeneutic tradition is associated largely with nineteenth-century German philosophy, but also has connections with phenomenology and the psychoanalysis of Freud. According to a hermeneutic perspective, social reality is seen as socially constructed, rather than being rooted in objective fact. Hence, hermeneutics argues that interpretation should be given more standing than explanation and description. Social reality is too complex to be understood through the process of observation. The scientist must interpret in order to achieve deeper levels of knowledge and also self-understanding.

Naturalistic inquiry

NATURALISTIC INQUIRY

According to Lincoln and Guba (1994), in the **naturalistic paradigm** there are multiple constructed realities that can only be studied holistically. Inquiry into these multiple realities raises more questions than it answers, so that prediction and control of outcomes is a largely futile expectation, although some level of understanding can be achieved (Guba, 1985). Inquiry itself cannot be detached but is value-bounded by the perspectives of the researcher. Rather than aiming to generalize, inquiry develops an ideographic body of knowledge that describes individual cases. Within these cases, plausible inferences on events and processes are made, but this falls short of claiming causality. Phenomena can only be understood within their environment or setting; they cannot be isolated or held constant while

others are manipulated. The real world is too complex, diverse and interdependent for this (Lincoln, 1985).

Research designs cannot be pre-specified, but 'emerge, unroll, cascade, or unfold during the research process' (Lincoln, 1985: 142). Because naturalists believe in the concept of multiple, constructed realities, it would be incongruent to specify these designs in advance. However, the types of research methods usually selected by naturalistic inquirers involve those most closely associated with a human component: interviewing, participant observation, document and content analysis (and other forms of unobtrusive measures).

Critical inquiry

It is worth having a brief overview of **critical inquiry** because it offers quite a different perspective to positivism and interpretivism. This critical form of research is a meta-process of investigation, which questions currently held values and assumptions and challenges conventional social structures. It invites both researchers and participants to discard what they term 'false consciousness' in order to develop new ways of understanding as a guide to effective action, confronting unjust social systems. In a Marxist sense, the critical inquiry perspective is not content to interpret the world but also seeks to change it. The assumptions that lie beneath critical inquiry are that:

- Ideas are mediated by power relations in society.
- Certain groups in society are privileged over others and exert an oppressive force on subordinate groups.
- What are presented as 'facts' cannot be disentangled from ideology and the self-interest of dominant groups.
- Mainstream research practices are implicated, even if unconsciously, in the reproduction of the systems of class, race and gender oppression.

Those adhering to the critical inquiry perspective accuse interpretivists of adopting an uncritical stance towards the culture they are exploring, whereas the task of researchers is to call the structures and values of society into question.

Feminism

Like Marxism and critical inquiry, feminist epistemologies take the view that what a person knows is largely determined by their social position. But whereas Marxism defines social class in terms of a person's relationship to the means of production, feminism regards women themselves as an oppressed social class. Because men come from a position of dominance, their knowledge of the world is distorted. In contrast, women, being subject to domination, have a less distorted social experience that has the potential to produce less distorted knowledge claims (Williams and May, 1996). But what counts as knowledge is also challenged. Attempts at rational or objective approaches to research are seen as the remit of male researchers, reflecting and prioritizing male values. In contrast, women have access to a deeper reality through their personal experiences (of oppression), and through their feelings and emotions.

FEMINIST RESEARCH

As we will see in Chapter 17 on ethnography, there are some research methodologies that have become to be seen as particularly appropriate by feminist researchers. According to Huisman (2008) what makes ethnography feminist is its concern with the social positioning of the researcher in relation to research subjects, particularly the notion of reflexivity. Hence, the researcher seeks to make her assumptions and values (biased or otherwise) as explicit as possible. Just as important as self-examination is the idea of reciprocity – researchers and participants are equal and both should benefit from the research (McNamara, 2009).

Postmodernism

Postmodernism is far from being a unified system of thought and is sometimes used interchangeably with concepts such as deconstructionism and post-structuralism. Emerging from the disillusionment of French intellectuals with Marxism after the events of 1968, postmodernism was not just an attack on positivism, but on the entire historical agenda of modernity – and particularly Marxism (Delanty, 1997). Postmodernism rejects any notion of social 'emancipation', emphasizing instead multiplicity, ambiguity, ambivalence and fragmentation. Whereas philosophers such as Habermas had seen fragmentation in negative terms and as a threat to communication, postmodernism views it quite positively as an opportunity for choice. Hence postmodern analysis often focuses on themes within advertising, lifestyles, fashion, sub-cultures and gender.

In terms of research, the primary task becomes the deconstruction of texts to expose how values and interests are embedded within them (Williams and May, 1996). The focus becomes not one of how these texts describe the 'reality' of the world, but how the social world becomes represented, and how meanings are produced. Texts are therefore seen as social practices, embedded with multiple values and vested interests, not the reporting of independent, objective judgements. As we have seen, in contrast to other epistemologies, postmodernism stresses a *becoming* ontology.

Pragmatism

Pragmatism is presented here because it is a relatively old philosophy but one that has seen a recent revival. Pragmatism was founded by American philosophers Charles Pierce (1839–1914), William James (1842–1910) and John Dewey (1859–1952) at the beginning of the twentieth century in an attempt to help American society face the many problems it was confronting at the time. Pierce is often referred to as the first spokesman of pragmatism, James as its translator to a wider audience, and Dewey as its most well-known advocate, due to his influence on pedagogical methods and educational systems (Sundin and Johannisson, 2006). For pragmatism, an ideology is true only if it works (particularly in promoting equity, freedom and justice) and generates practical consequences for society. Hence, pragmatists focus not on whether a proposition fits a particular ontology, but whether it suits a purpose and is capable of creating action (Rorty, 1998). A belief is true if that belief opens opportunities for better ways of democratic, purposeful living. However, pragmatism struggled to maintain its influence beyond the first three decades of the twentieth century (Kelemen and Rumens, 2012).

Since the 1970s, however, pragmatism has regained some of its popularity, largely because of the insights it has provided for research into management and

organizations and also because it is seen by some to provide an epistemological justification for mixing approaches and methods (Onwuegbuzie et al., 2009). While in pragmatist research, research paradigms can remain separate, they can also be mixed or combined into another research design. Hence, pragmatism views the mixing of quantitative and qualitative data in a single study not only as legitimate, but in some cases necessary. We will look at mixed methods in detail in Chapter 8.

RESEARCH METHODOLOGIES

We have examined, briefly, the significance of both epistemology and theoretical perspectives in research design. Let us now look at applying these in practice by exploring some of the alternative research methodologies. The choice of research methodology is determined by a combination of several factors – for example, whether the researcher believes that there is some sort of external 'truth' out there that needs discovering, or whether the task of research is to explore and unpick people's multiple perspectives in natural, field settings. It is influenced, then, by whether the research is inclined towards a positivist, interpretivist, or other perspective. It will also be influenced, for example, by the researcher's attitude towards the ways in which she or he thinks theory should be used – whether research should begin with a theoretical model or perspective (deductive approach) or whether such models should emerge from the data itself (inductively).

RESEARCH METHODS INTERVIEW

In examining each of the following research methodologies (selected to illustrate a range of approaches), pause each time to consider whether you think each is inclined towards a more 'being' or 'becoming' ontology. A Case Study is provided for each methodology to help you.

Experimental and quasi-experimental research

In classical, scientific experiments, subjects are randomly assigned to either an experimental or a control group. The experimental group receives the 'treatment' and the results are compared with the control group that does not receive the treatment. Hence, the researcher manipulates the **independent variable** (the variable that the researcher has some control over) to see its effect on the **dependent variable** (the response that is measured). For example, an experiment could measure the effect on test scores (dependent variable) of a new computer-assisted teaching system (independent variable). In the real world, however, it is often not possible to conduct truly experimental research because it is difficult to find experimental and control groups that are closely matched in terms of key variables (such as age, gender, income, work grade, etc.). Instead, a quasi-experimental design is used where the researcher, for example, has to take existing groups rather than drawing on random samples. Instead of trying to manipulate an independent variable the researcher will often attempt to find groups of people who have experienced it in their own natural setting. An attempt is then made to compare the behaviour of this group with that of a similar group that has not experienced the event or phenomenon. In experimental and quasi-experimental research there is also the tendency to make use of hypotheses which the experiment seeks either to support or to refute. In other words, experimental research is usually deductive.

EXPERIMENTAL RESEARCH

QUASI-EXPERIMENTAL RESEARCH

Experimental and quasi-experimental research, then, places an emphasis on:

- Reproducing the techniques of the laboratory experiment with highly structured methods.
- The generation of initial hypotheses.
- The control of variables.
- Accurate (quantitative) measurement of outcomes.
- Generalization from samples to similar populations.

CASE STUDY 2.2

Experimental research

A global organization selling Internet hardware, software and services, has an extensive set of internal training programmes, each of which is formally assessed. The company wants to reduce the size of the overall training budget through the use of e-learning, but is concerned as to whether learning through this mechanism is more effective, less effective or makes no difference. It is believed by the research team that e-learning will be marginally more effective – thus they have a working hypothesis.

All 200 members of a representative sample are given a pre-test of their understanding of a selected subject. Then the subject is taught to 100 participants through traditional, classroom learning (the control group) and to the other 100 participants through a specially designed e-learning program (the experimental group). All employees are given a post-test, and the gain-scores (the differences between the pre-test and post-test score) compared between the two groups.

Experimental and quasi-experimental research designs will be considered in more detail in Chapter 6.

Phenomenological research

Phenomenology is a theoretical perspective that uses relatively unstructured methods of data collection. One of the advantages of phenomenology is that, because of its emphasis on the inductive collection of large amounts of data, it is more likely to pick up factors that were not part of the original research focus. For example, Groenewald (2004) describes a study in which he sought to investigate the phenomenon of the growing of talent and the role of cooperative education in this process. In carrying out the study he conducted long, unstructured interviews with 10 school managers, created field notes including reflective 'memos' on his experience of the process, and got programme students to write essays about their experiences, with the aim of getting to understand the participants' world. He was not 'looking for answers', but allowing the data to emerge.

Phenomenological research is about producing '**thick descriptions**' of people's experiences and perspectives within their natural settings. But it is often based upon quite small case studies giving rise to concerns about its generalizability to other situations. Also, because it is generally unstructured, phenomenological research may be difficult to replicate. Phenomenological research, then:

- Emphasizes inductive logic.
- Seeks the opinions and subjective accounts and interpretations of participants.
- Relies on qualitative analysis of data.
- Is not so much concerned with generalizations to larger populations, but with contextual description and analysis.

CASE STUDY 2.3

Phenomenological research

A city police authority has spent three years conducting a 'war' on street soliciting in one of the city's poorest areas. Since the legal crackdown has not had the desired result, the police authority decides that the problem needs to be understood before new solutions are tried. A research study is commissioned to find out why these women turn to prostitution, the attitudes of the local community to their activities, and what sort of clients seek the women's services and where they come from.

Three female researchers rent a flat in the area for six months. They do not try to hide who they are or what they are doing, but nevertheless, manage to build up a rapport and trust with 10 of the women. Sometimes this is through visiting their 'pitches' where they are working, at other times it is through chance meetings while shopping, in bars or at the launderette. The researchers also take time to talk to local people about the issue, including local police officers, through casual conversations, rather than formal interviews. The team gathers data sets consisting of detailed personal biographies of the women, their own attitudes towards their work, and the range of problems and issues raised by members of the local community. Having written these biographies, the researchers revisit the women to have the transcripts checked for accuracy.

Phenomenological research will be considered in greater detail in Chapter 7.

Analytical surveys

These attempt to test a theory in the field through exploring the association between variables. **Analytical surveys** are highly structured and place an emphasis on the careful random selection of samples, so that the results can be generalized to other situations or contexts. On the other hand, the very tightness of the survey structure may hinder the ability of respondents to provide illuminating information in a way that they would like.

Like the truly experimental approach, analytic surveys emphasize:

- A deductive approach.
- The identification of the research population.
- The drawing of a representative sample from the population.
- Control of variables.
- The generation of both qualitative and quantitative data.
- Generalizability of results.

Action research

Action research involves close collaboration between researcher and practitioners, and places an emphasis on promoting change within organizations such as offices, hospitals, schools and prisons. While the emphasis is on seeking information on the attitudes and perspectives of practitioners in the field, the way in which data are collected may involve both quantitative and qualitative methods. The main action research medium, however, is the case study, or multiple case studies. In some

CASE STUDY 2.4

Analytical surveys

A government department is becoming increasingly concerned that the level of waste recycling by domestic households is not increasing despite a major publicity campaign and the provision of local amenities for recycling. The department commissions a nationally based survey to explore for each household contacted:

- The level of recycling.
- Attitudes to the environment.
- Attitudes to recycling specific waste products.
- The size and location of the household.
- The convenience of recycling facilities available.
- The household income level.
- The number of adults and children per house.

The survey is constructed so that **correlation** levels (strength of relationships) between levels of recycling and the other variables can be calculated and analysed. The hypothesis being tested is that levels of recycling are strongly positively correlated with attitudes to the environment (determined through the collection of qualitative data) and moderately positively correlated with access to local recycling amenities. Hence, if the hypothesis is confirmed, government policy will focus on changing attitudes towards recycling rather than on the provision of more amenities.

Analytical surveys will be considered in more detail in Chapter 10.

ACTION RESEARCH

research designs, both an experimental and a control case study may be used, so emulating the experimental approach. Action research then:

- Involves both researchers and practitioners (or practitioners as researchers within their own organization).
- Can be highly structured and involve the use of experimental and control groups used to test a hypothesis.
- Can also be quite unstructured and used inductively (and qualitatively).

CASE STUDY 2.5

Action research

A group of 20 teachers provide intensive educational support to children with special educational, emotional and physical needs in four community schools. The educational attainment of the special needs children in these schools has remained depressingly low over time. The special needs teachers decide to undertake an action research study using their four schools as the experimental cohort and four other schools in the district as the control. Working collaboratively with their other teaching colleagues in the school, a series of ten 'mould-breaking' workshops are run in which issues are explored and new solutions formulated. These are prioritized and a number of solutions implemented in the second semester. The educational attainment and other indicators are then calculated for the children from the four schools involved in the action research project, and compared to those of children in the other district schools (the control).

Action research methods will be considered in more detail in Chapter 13.

Heuristic inquiry

Heuristic inquiry is a process that begins with a question or a problem which the researcher tries to illuminate or find an answer to. The question itself is usually focused on an issue that has posed a *personal* problem and to which answers are required. It seeks, through open-ended inquiry, self-directed search and immersion in active experience, to 'get inside' the question by becoming one with it.

According to Moustakas (1990), one of the primary processes of heuristic research is self-dialogue in which the researcher enters into a conversation with the phenomenon and is questioned by it. It is hoped that the process will lead to self-discoveries, awareness and enhanced understanding. Through this, the researcher is able to develop the skills and ability to understand the problem itself and, in turn, to develop the understanding of others.

Philosophically, heuristic inquiry does not start from the premise that there is an external 'objective' truth to be discovered. In contrast, it starts phenomenologically from the belief that understanding grows out of direct human experience and can only be discovered initially through self-inquiry. Heuristic research, then, is autobiographical, providing for a deep, personal analysis. It is richly descriptive, but also strongly subjective, and weak in terms of generalizability.

HEURISTIC INQUIRY

Heuristic research, then, involves the researcher in:

- A deep personal questioning of what it is they wish to research.
- Living, sleeping and merging with the research question.
- Allowing inner workings of intuition to extend understanding of the question.
- Reviewing all the data from personal experiences to identify tacit meanings.
- Forming a creative synthesis, including ideas for and against a proposition.

CASE STUDY 2.6

Heuristic research

The Operations Director of a company finds that he is passed over for promotion to Chief Executive for the third time. In an attempt to understand why this has occurred, he approaches the Chairperson, who has been largely responsible for this decision and asks if she will join him in a heuristic research project to uncover the reasons behind the decision. At first, the Chairperson is reluctant because she thinks (rightly) that the process will reveal some of her confidential thoughts. But she eventually agrees because she realizes that the process of working together might articulate for her the personal qualities she is seeking in a Chief Executive.

The Operations Director, who acts as the researcher, begins with a deep personal reflection on what he wants to achieve in the research. Then, through a series of open and frank discussions with the Chairperson, he works through his feelings towards his current role, his successes and failures in numerous projects, his expectations of the Chairperson and her expectations of him. Over a period of five meetings he begins to understand that the blockage is not based upon prejudice, but on a feeling (shared by other members of the Board) that he is an excellent Operations Director, but lacks the *strategic* vision to be the Chief Executive. Through a process of explication (the full examination of awakened consciousness), he begins to realize that this analysis is probably correct.

ACTIVITY 2.3

Examine the range of research methodologies outlined above. Select one methodology that you think could be valid for your own research uses and one that is inappropriate. Justify your choices.

SELECTING RESEARCH APPROACHES AND STRATEGIES

In this chapter we have examined some of the philosophies of research, two approaches to research (inductive and deductive) and, within the context of truth and perspective-seeking objectives, some research methodologies (experimental, survey, phenomenological, etc.). We now need to put these together within a coherent framework (or as near to one as we can get) and to add a time horizon and data collection methods. Notice that data collection methods are being discussed last (see Figure 2.3). Novice researchers may be tempted to begin with the design, say, of a questionnaire, so that data can be gathered without delay, but Figure 2.3 shows that other stages must be considered first.

Connecting the research elements

As we saw earlier, it is wise to start by considering epistemology. At first sight, this might seem rather irrelevant. But your approach to research and the research methods that you use will be influenced by whether you think it is possible (or desirable) to try to measure an objective 'truth', or whether you think that the real world cannot be measured in this way. As we have seen, the theoretical perspective of interpretivism sees the world as too complex to be reduced to a set of observable 'laws'. Generalizability is less important than understanding the real workings behind 'reality'. With your research topic in mind, you will probably have a view as to whether you want to measure and generalize to a larger population or to seek 'thick descriptions', through the collection of qualitative data. Alternatively, your approach might include elements of both. Hence, Figure 2.3 does not illustrate a dividing wall between epistemologies and perspectives, but a gradual shading of one into the other.

We also have access to a range of research methodologies. Figure 2.3 deliberately shows the experimental methodology beneath the deductive/positivism side of the diagram. Conversely, action research has been placed more towards inductive/interpretivism. But it is dangerous to categorize research methodologies against specific approaches and philosophies. Action research, for example, can incorporate a qualitative, inductive approach with an emphasis on seeking the views and perspectives of participants. Equally, it can use, say, a series of case studies involving an intervention with a number of groups, with others used as a control – in other words, an experimental methodology. Figure 2.3, then, illustrates some broad tendencies that should not be interpreted as concrete relationships. What is important, is that whatever philosophy, approach and methodology you adopt for your research, you should be able to justify your mix in relation to your research philosophy and research question(s).

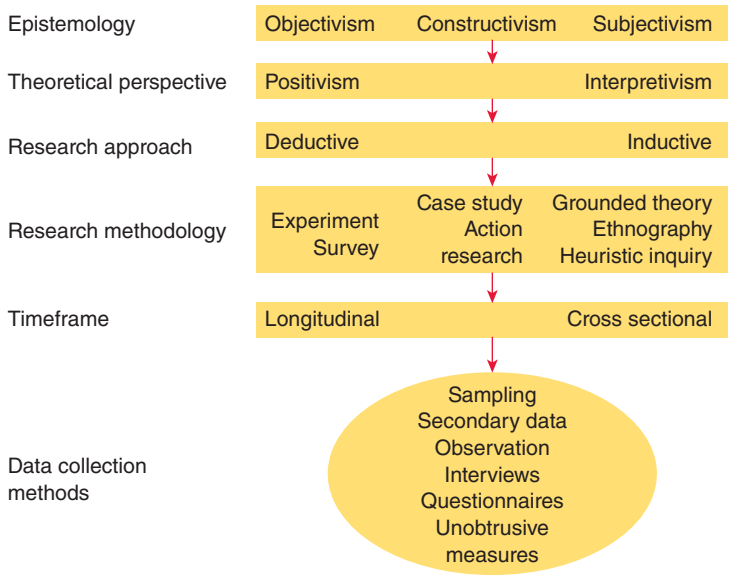

Figure 2.3 The elements of the research process

Source: Adapted from Saunders et al., 2012

TOP TIP 2.2

In planning a research project, never begin by deciding on what data gathering tool or approach to use. Begin by identifying what it is you are actually trying to research. Link this issue to your appreciation and commitment to one or more of the epistemological stances discussed above. If you come to the selection of data gathering tools towards the end of your planning process, you should be on the right lines.

GRAY ON PLANNING A RESEARCH PROJECT

Timeframes for research

In planning your research you will usually have some sort of idea as to the timescales you have available to you. If these are short-term, then you will probably have to adopt a **cross-sectional study** using a 'snapshot' approach where the data are collected at one point in time. Cross-sectional studies often use a survey methodology. For example, they might seek to measure staff attitudes towards the introduction of new working practices, or to compare crime rates for particular types of crime between different cities. Most research studies are cross-sectional, mainly because of the pressure of time and resources.

CROSS-SECTIONAL STUDY

If your timescales are more generous, it may be possible to undertake a **longitudinal study**, to study change and development over time. Taking our example above, a longitudinal study of working practices might examine changes in staff attitudes over time, looking at attitudes before the introduction of new working practices, and then at various periods afterwards. Similarly, crime rates can be studied to identify where rates are falling and rising. This might allow researchers to begin to identify explanatory factors such as demographic changes, social conditions and policing methods.

LONGITUDINAL STUDIES

Exploratory, descriptive, explanatory and interpretive studies

While we have so far classified studies by their research methodology, they can also be classified according to their purpose. As Robson (2002) explains, there are three possible forms of study: exploratory, descriptive and explanatory. To these Maxwell (1996) adds a fourth, interpretive studies. Punch (2005) maintains that where a research area is relatively new or unexplored, descriptive studies may be adequate. However, for well worked research areas, where there is already a plethora of descriptive information, a more exploratory approach is advisable.

Exploratory studies

As the name suggests, exploratory studies seek to explore what is happening and to ask questions about it. They are particularly useful when not enough is known about a phenomenon. An exploratory study, then, may help to decide whether it is worth researching the issue or not. As Saunders et al. (2007) suggest, exploratory studies can be conducted by:

- A search of the literature.
- Talking to experts in the field.
- Conducting focus group interviews.

Having established the main constructs or focus of a study, it may then be possible to conduct explanatory or interpretive research.

Descriptive studies

According to Hedrick et al. (1993), the purpose of a descriptive study is to provide a picture of a phenomenon as it naturally occurs. This may, indeed, by purely descriptive (for example, the level and nature of crime among 16–21-year-olds). But it may also comprise a normative study, comparing the data against some standard (for example, comparing drug use against legal standards of drug classification to gauge the seriousness of crime). Descriptive studies seek to 'draw a picture' of a situation, person or event or show how things are related to each other. As Blumberg, Cooper and Schindler (2005) point out one of the weaknesses of descriptive studies is that they cannot explain why an event has occurred.

Explanatory studies

An explanatory study sets out to explain and account for the descriptive information. So, while descriptive studies may ask 'what' kinds of questions, explanatory studies seek to ask 'why' and 'how' questions. This distinction between descriptive and explanatory research applies equally to both quantitative and qualitative research.

Some studies can also be correlative in nature, with the emphasis on discovering causal relationships between variables. So we could determine the relationship between drug use and other variables such as social class, employment, attitudes to drugs, etc.

Interpretive studies

Interpretive studies seek to explore peoples' experiences and their views or perspectives of these experiences. Interpretive studies are, typically, inductive in nature and often associated with qualitative approaches to data gathering and analysis.

Using multiple methods

Much of the discussion so far has tended to offer a dichotomy of approaches – inductive or deductive, experimental or case study, cross-sectional or longitudinal. In practice, however, it is often the case that multiple methods will be used. One reason is that research projects usually include a number of different research questions, so a research method appropriate for one question may be inappropriate for another. The second reason for using multiple methods is that it enables **triangulation** to be used. Easterby-Smith et al. (2002) refer to data triangulation as the collecting of data over different times or from different sources. This approach is typical of cross-sectional designs. Methodological triangulation is also possible, with the use of a combination of methods such as case studies, interviews and surveys. All methods have their strengths and weaknesses. So not only does the use of multiple methods assist in data triangulation, it helps to balance out any of the potential weaknesses in each data collection method. But whichever methods are used, in the final analysis Oakley's argument is sound: '*all* methods must be open, consistently applied and replicable by others' (1999: 252, original emphasis). These multiple methods approaches to research are discussed in more detail in Chapter 8: Research Design: Mixed Methods.

TRIANGULATION

Summary

- The dominant research paradigm for much of the twentieth century was positivism, but, today, at least in the social sciences, this has been largely replaced by anti-positivist or post-positivist stances such as interpretivism.
- Through the inductive approach, data are accumulated and analysed to see if relationships emerge between variables. The deductive approach uses a theory to generate a working hypothesis concerning relationships between variables. The hypothesis is operationalized and tested and is either accepted or rejected on the basis of the evidence.
- The inductive and deductive methods are not mutually exclusive. A researcher may turn a collection of data into a set of concepts, models or even theories (inductive approach) which are then tested through experimentation (deductive).
- Approaches to research include both truth-seeking and perspective-seeking methods. Truth-seeking methods tend to adopt more experimental or quasi-experimental approaches. Perspective-seeking methods tend to be more interpretivist (for example, phenomenological) and to generate qualitative data. These relationships should be treated as tendencies rather than as laws.
- Selecting approaches to research involves adopting a research philosophy, and an appropriate research approach and methodology. In practice, research often necessitates the use of multiple methods to achieve triangulation.

REVIEW QUESTIONS

1. Can we ever conduct research without having first established our epistemological position?
2. Positivism has been described as 'one of the heroic failures of modern philosophy.' Do you agree with this statement?
3. Why is reflexivity often associated with feminist theoretical perspectives? Should it be associated with all perspectives?
4. We can mix data collection methods in the same study (for example, surveys plus interviews), but is it ever acceptable to mix epistemological positions?

FURTHER READING

Paul, J. (2004) *Introduction to the Philosophies of Research and Criticism in Education and the Social Sciences.* London: Prentice Hall. A comprehensive book that deals with nine alternative philosophies of research including postmodernism, constructivism, interpretivism and post-structuralism.

Cohen, L., Manion, L. and Morrison, K. (2011) *Research Methods in Education*, 7th edn. London: Routledge. See especially Chapter 1 on Paradigms of Social Research.

Crotty, M. (1998) *The Foundation of Social Research: Meaning and Perspectives in the Research Process*. London: Sage. Provides a very readable description and explanation of the major epistemological stances and how they originated.

Scheurich, J.J. (1997) *Research Methods in the Postmodern*. London: Falmer. Provides an introduction to how postmodernism can be applied to critiquing a wide range of approaches to research, and describes the implications of postmodernism for practice.

Reinharz, S. (1992) *Feminist Methods in Social Research*. New York: Oxford University Press. Covers approaches such as ethnography, survey research, experimental research, case studies and action research, all from a feminist perspective.

JOURNAL RESOURCES

Wynn, Jr. D. and Williams, C.K. (2012) 'Principles for conducting critical realist case study research in information systems', *MIS Quarterly*, 36(3): 787–810. Shows how critical realism can be applied to research methodologies. Although the focus is information systems, the analysis is of general applicability.

Chen, Y.Y., Shek, D.T. and Bu, F.F. (2011) 'Applications of interpretive and constructionist research methods in adolescent research: Philosophy, principles and examples', *International Journal of Adolescent Medicine and Health*, 23(2): 129–139. Gives a brief introduction to interpretivism, constructionism and constructivism, showing similarities and differences between interpretivism and constructionism in terms of their histories, ontological and epistemological stances, and research applications.

JUSTIFYING KNOWLEDGE

Carter, S.M. and Little, M. (2007) 'Justifying knowledge, justifying method, taking action: Epistemologies, methodologies, and methods in qualitative research', *Qualitative Health Research*, 17(10): 1316–1328. An article that demonstrates some of the relationships between knowledge, epistemology, methodology and methods from a qualitative research perspective.

METHODS MATTER

Schmierback, M. (2005) 'Method matters: The influence of methodology on journalists' assessments of social science research', *Science Communication*, 26(3): 269–287. Describes a study of journalists to determine whether the use of a quantitative or qualitative approach to research influences their judgement as to the quality of a study. It does!

Johnson, M. (1999) 'Observations on positivism and pseudoscience in qualitative nursing research', *Journal of Advanced Nursing*, 30(1): 67–73. Examines the boundaries between positivism, interpretivism, and what the author refers to as pseudoscience.