Research Methods

The Key Concepts

Michael Hammond and Jerry Wellington

ROUTLEDGE KEY GUIDES

RESEARCH METHODS

This invaluable resource provides a comprehensive overview of the many methods and methodologies of social research. Each entry provides a critical definition of a concept and examines the value and difficulties of a particular method or methodology across different fields of social research.

Concepts covered include:

- Action research
- Causality
- Discourse analysis
- Epistemology
- Literature review
- Interviewing
- Surveys
- Writing for audiences.

With thematic further reading stretching across the social sciences, *Research Methods: The Key Concepts* will help readers develop a firm understanding of the rationale and principles behind key research methods, and is a must-have for new researchers at all levels, from undergraduate to postgraduate and beyond.

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RESEARCH METHODS

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Michael Hammond and
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LIST OF KEY CONCEPTS

PREFACE

The aim of this book is to provide support for those undertaking their own social research projects. This is a wide audience. The book will be particularly useful for higher education students carrying out projects at the end of their first degree or during a Master's programme. Many of the entries will also be useful for those undertaking doctoral research and some of the entries have been written with the production of a thesis in mind.

The book covers epistemological orientations to research, such as constructionism, interpretivism, positivism and postmodernism, as well as methodological concerns, such as inductive and deductive analysis and the nature of claims to reliability, trustworthiness and validity. We also consider research design and particular methods of collecting and analysing data, for example questionnaire surveys, interviewing, observation and related activities, such as coding and content analysis. The book encourages the reader to adopt a critical and thoughtful approach to research; it is not offering a simple formula to follow.

Each entry in the book provides an overview definition, or competing definitions, of a concept, followed by a discussion of the part played by each concept in a research project. We have sought to be even handed, though express firm views where we feel a difficulty or limitation in the use of the concept needs to be highlighted. A wide range of research reporting is cited. This includes not only classic accounts such as Oscar Lewis's *The Sanchez Family*, Durkheim's *Suicide*, Weber's *The Protestant Ethic and the Spirit of Capitalism*, but also a broad selection of recent studies, some written by new researchers, across many different fields. Entries are in alphabetical order and, where appropriate, cross-referenced by the use of bold font. An extended glossary is provided at the back of the book.

Guides to social research are rarely read cover to cover but we would encourage readers to visit some of the concepts with which they are unfamiliar or of which they may be dismissive; the signposting across entries will help. Of course, many readers will prefer to

'dip into' the book 'as and when' they need to and the alphabetical organisation makes this straightforward to do.

Why this book?

The work is informed by our experience in leading workshops with student researchers as well as supervising and examining research degrees. During this time, we have been much encouraged by the high quality of research being undertaken and the passion with which new researchers present their projects. However, we do encounter some consistent difficulties which this book might help to address. Indeed, it is the recurring nature of these difficulties to which we would like to draw attention. Tolstoy famously wrote that 'Happy families are all alike; every unhappy family is unhappy in its own way'. Turning this aphorism on its head, happy researchers seem confident in the choices they make, able to defend their decisions and invest their work with personal meaning; 'happy' research is undertaken within a research tradition but finds a place of its own within that tradition. In contrast, unhappy research seems to encounter some, or all, of the following difficulties with respect to the methods and approaches it uses:

- Incomplete understanding of a concept. The researcher has got the gist of an idea but is unaware of its implications in full. For example, **grounded theory** is often understood as an inductive approach to coding data but the wider aim of generating **theory** is missed and the tensions that existed between its founders ignored. The term ends up being misapplied. Similarly, **action research** is often characterised as an experiment or innovation undertaken by a practitioner but new researchers may miss its concern for a systematic and cyclical process – action research becomes misrepresented as everyday practitioner enquiry. To take a third example, **case study** is rightly understood as a study bounded within a particular context but researchers often fail to appreciate the importance of in-depth engagement with the 'actors' in that context. What are essentially scenarios are misrepresented as case studies.
- Switching '**paradigm**', sometimes within the same research project. For example, we often read research that claims to be following an exploratory, constructivist / social constructivist approach but goes on later to use pseudo-scientific language, such as 'administering data collection instruments', 'presenting generalisable findings' and 'controlling for reliability and bias'. This is a shift of **metaphor**: the researcher has wanted to describe the

research process – to use a time-honoured phrase – as a 'journey' but has ended up borrowing from the language of natural science. The shift in language signals a mismatch between the espoused objectives of the researcher and the work as it has materialised.

- Parodying approaches with which the researcher does not agree. For example, **positivism** is often rejected out of hand as making wholly unsupportable claims regarding the objective nature of research and, for that matter, of the material world in general. However, this dismissal fails to understand the historical importance of positivism and the degree to which positivist assumptions live on within interpretive enquiry.
- 'Over-egging' the innovative character of one's research. For example, some researchers celebrate the participatory and **collaborative** approach taken in their projects, but on further reading it appears that participation does not go much beyond mainstream methods of 'accessing the voice' of participants and that the inequalities between researchers' and participants' access to social and intellectual capital are simply glossed over. In these cases, collaboration exists more as an aspiration rather than a useful descriptive label.
- Taking differences of degree as differences of state. For example, claims to **validity**, **reliability** or **trustworthiness** are given as if there was some easily defined point at which interpretation and analysis pass from 'invalid' to 'valid', 'unreliable' to 'reliable', 'untrustworthy' to 'trustworthy'. There is not. In a similar fashion, quantitative and qualitative methods are separated out as if those carrying out surveys are disinterested in open-ended questions and those carrying out interviews do not look for patterns of agreement and disagreement across respondents.
- An overly formulaic approach to study. There is almost a tick list inside the researcher's mind that **literature** has been reviewed; a **methodology** supplied and **methods** explained; **descriptive** and **explanatory** analysis carried out; some conclusions reported. This may offer a very well-organised account but the researcher needs to go deeper and to critically explore the **concepts**, for example, class, culture, happiness, intelligence, learning, participation, trust, well-being and so on, which are being used as the building blocks for a particular enquiry. Being **critical** means appreciating the research tradition in which one is working and what has been reported earlier, but it also means offering a personal view of the field and being prepared to point out the inconsistencies and shortcomings in the past.

Those of us conducting and supporting research are living in particularly exciting times: in most cases, we are not expected to work within one dominant paradigm; creative and innovative approaches to data collection are often welcomed and we have greater access to information than ever before. We are not reaching a saturation point in research; rather we are increasingly aware of just how much more there is to find out. With greater movement between researchers, and changes in global economic development, research has become more international and more interdisciplinary. We can embrace the freedom in which we work. We should rightly be ever more sceptical about claims as to the 'scientific' basis for social research, but we can take meaningful steps to explain the judgements we make and the rationality with which we have reached conclusions.

It is hoped that this guide will help in this process by providing an orientation to research concepts and acting as a useful signpost to further literature. We are aware that our 'take' on these concepts will be disputed by some readers and colleagues and see that as both inevitable and welcome – we are offering a starting point for what we hope is an extended discussion. We are also aware that in a general book of this nature there will be particular social research themes and fields of enquiry which we have not included. We have tried to cover the major difficulties and areas of tension and we have tried to present a wide selection of research but we have had to stop somewhere. We are not claiming to be encyclopaedic in coverage.

We are grateful here for the advice and input from colleagues, research students and external reviewers. Particular thanks are due to Evie Benetou, Julia Davies, Jenni Ingram, Maria Kaparou, Diane Levine, Penny Nunn, Alison Parish, Alan Prout and Cathie Zara for comments on some of the entries. All errors and omissions are our responsibility and we share the humility of Doctor Johnson, the compiler of the first English dictionary: where we have got it wrong this is, alas, down to 'ignorance, pure ignorance'.

RESEARCH METHODS

The Key Concepts

ACCESS

Access involves gaining entry to people, to places, to organisations or to documents. Access is negotiated in advance but gaining access is not a one-off process; access may be extended as trust is developed, for example, if the researcher's presentation is seen as appropriate and ethical guidelines are being followed. Access to people in organisations is invariably facilitated by key informants who can help explain the context in which the organisation works and guide the researcher in developing a suitable observation or interview strategy.

Clearly, access in some contexts is unlikely, for example, few researchers will be able to gain access to presidents and prime ministers or 'leaders' of industry or be able to observe decision making in ministries or within global conglomerates. However, access may also be a difficulty in more everyday contexts. In many countries, for example, access to schools is only granted after checks have been carried out and access to prisons (at least for research processes) is understandably time consuming (Schlosser, 2008). Underlying restrictions on access is an unwillingness to expose organisational practices to public scrutiny alongside deep-rooted ethical and practical concerns. At times, there is a culture clash between researchers and their 'good intention', and 'gatekeepers' with particular concerns for their own organisations and justifiable fears of seeing it misrepresented.

Unrestricted access is likely to be difficult if not impossible to achieve and this can seriously affect the design, planning, sampling and carrying out of research. Many new researchers often worry that they have failed in their projects by being unable to gain access to enough informants or respondents or have been denied observations of key events. However, all the researcher can do is to make reasonable efforts and consider the significance of any gaps in data collection: research is the 'art of the possible', which is why opportunistic or convenience sampling features so commonly in real-life contexts.

There are some who argue that access should be gained covertly in some contexts so that the researcher pretends to play a role in order to minimise 'reactivity' or the observer effect. This applies, of course, largely to observation studies and has been called 'covert participant observation' (Bulmer, 1982). Examples of covert research are numerous; most notably, Goffman (1963) carried out research into asylums in the USA by taking on the role of an assistant athletic director. In the UK, Hockey (1991) researched the 'negotiation of order' within the army while a member of a troop, and Fielding (1981) researched a 'neo-fascist' organisation while masquerading as a member.

In all of these examples, the case for covert access seemed to be on the grounds of uncovering what should not be hidden: our treatment of mental illness, how we socialise army recruits, the allure of anti-democratic politics. However, each is unsettling in its ethical stance, and academic researchers seeking to carry out covert observation are likely to encounter greater challenges today or flat refusal from ethics committees. Nonetheless, researchers are free to access many public spaces, though this still leaves dilemmas, as Li (2008) discusses sensitively when describing how she withheld her researcher identity when visiting casinos in order to study female gambling culture in Canada.

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ACTION RESEARCH

Action research seeks to address social and professional problems through an iterative cycle of action and reflection. The term action research itself is widely believed to have been first used by Lewin in work on citizenship in the 1940s in the USA to describe research, in which dialogue and participation were key concerns, leading to social action. Action research was taken up as a form of practitioner enquiry focused on an attempt to improve practice through a systematic cycle or cycles of planning, doing and reflecting. For example, action research became important in the field of education, with the work of Carr and Kemmis (1986) becoming highly influential; in a much quoted definition, they envisaged action research as 'a form of self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their understanding of these practices, and the situations in which the practices are carried out' (Carr and Kemmis, 1986: 162).

Action research has widespread appeal across many different fields and projects are carried out by practitioners within community activism and development, citizenship, professional learning, product design and so on. A flavour of the breadth of this work can be found in examples such as Frey and Cross (2011), who attempt to promote educational rights among young people living in extreme poverty in Argentina; Ferguson-Patrick (2007), developing writing among learners in a school in Australia; Raelin and Coghlan (2006), who discuss the contribution of action learning in workplace contexts; and Foth and Axup (2006), who discuss the links between participatory design and action research in creating technological artefacts.

Action research is popular because it has the considerable advantage that it seeks to directly improve practice for the better. Repeatedly, action research has been seen as making a difference in ways that more 'conventional' research does not. It avoids top-down implementation of unsuitable policies and practices, and proposes a more flexible, bottom-up, iterative approach: we do not know all there is to know when first introducing an innovation, we need to adapt in light of experience. However, the researcher new to action research faces several challenges. These include:

- How to describe the process? At heart, those carrying out action research are asked to 'plan, do, reflect', but several quite elaborate frameworks have been produced on the back of this simple injunction. These frameworks try to provide workable guidance for keeping the researcher on track, while recognising that the process of action research is iterative, flexible and 'messy'. There is no easy way to balance these two concerns and no obvious or agreed model of action research for new researchers to take; any framework will need to be adapted to particular circumstances.
- Is action research problem or opportunity orientated? Traditionally, action researchers have sought to address social and practical *problems* but this limits the application of the process. Many projects are better described as taking advantage of opportunities, such as those provided by new technology, or, better, having elements of opportunity taking and problem solving.
- How to present and how to assess the 'quality' of an action research project? Most action researchers will reject or reinterpret traditional notions of validity and reliability and perhaps talk of elements such as theoretical and methodological robustness, value-for-use and building capacity (Elliott, 2007). Many will talk of **trustworthiness** and have a particular interest in ensuring their

research is 'interconnected' to the experiences of research participants and in the creation of **emic** knowledge. Action researchers often present to practitioner and other non-academic audiences (both within and beyond the context in which the research took place) in ways that other social researchers may not.

- Is there a trade-off between understanding and doing? Bogdan and Biklen (1992), for example, see the aim of action research as the 'collecting of information for social change', and at times action research may focus more on exposing the limits on change rather than introducing innovations, which have very little chance of addressing fundamental problems of practice.
- Is action research necessarily critical? Some, both within and beyond action research communities, see action research as largely 'technical' in scope – offering quick-fix solutions to problems without considering the moral context in which the research is taking place or the imbalance of power and influence within an organisation or practice. Critical action research (see also **critical theory** and **feminist methodology**), in contrast, considers both means and ends and interrogates all courses of action on both moral and practical grounds. Some action research takes on an explicit ethical commitment to work with oppressed groups in a society, sometimes drawing on the ideas of participative pedagogy advanced by Freire (1972).
- Is action research always collaborative? Collaboration is often considered necessary in action research in two respects: collaboration between peers, on the grounds that it is not possible to understand, let alone change, a situation by oneself; and collaboration with outside agents, often academics, who have greater experience of the process and can provide a stimulus and support for enquiry. Some argue that action research needs to be collaborative if it is to go beyond the normal course of everyday problem solving and if change is to be sustainable. This raises challenges. The action researcher needs to enlist collaborators, when such collaboration may not be forthcoming, and to negotiate equitable and productive relationships with outsiders.

Action research offers an opportunity for a synthesis of theory and action resulting in greater understanding leading to desirable sustainable change. However, critics of action research question the capacity of 'lay' researchers to undertake and report research and their willingness to participate in systematic enquiry given its time-consuming nature. Critics further point out that most academic accounts of action research are written by outsiders working in close cooperation

with participants rather than participants themselves. They also question whether findings can be generalised adequately. Researchers using the term action research need to be aware of these criticisms and to be able to identify tensions in their own research. In practice, some action research reports assume there are agreed methods and procedures for action research, when there are not. Some projects reported as action research are better understood as case studies, as they are reporting practice and innovations from the outside; some are better described as experiments, in which the researcher has been minded to follow a course of action in advance of any reflection on practice. Finally, the action researcher needs to know his or her audience or audiences. There is an important distinction between the wider academic community, interested in generalising from a project, and one's collaborators who may have a strong emotional engagement with the project and a concern for its practical outcomes.

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AGENCY

Agency refers to the capacity of individuals to act independently and to make their own decisions based on an awareness of their situation and the range of responses open to them. It can be contrasted with **determinism**, which refers to the cultural, material, historical and

political contexts that influence an individual's behaviour and life chances. While social science generally looks for explanation of behaviour at a social or group level, this does not preclude an exploration of agency at an individual level; we **construct** meaning and what we do as human beings is not simply the sum total of that which has happened to us. Some researchers have a particular interest in the interplay between individual agency and social structure – this is explored, for example, in Berger's (2008) striking study of a gang member in the USA who was shot and paralysed and subsequently became a world-class wheelchair athlete. Agency, then, provides a focus of attention, not a single overarching explanation for social phenomena; there is always an interplay between agency and structure.

Some forms of social enquiry seek to examine the conditions in which participants can establish agency through the stimulus and support of researchers. Ethnomethodology, for example, Garfinkel (1963), suggests our view of the world is a complacent one; we take for granted meanings and predictable behaviour as long as this leads to broadly satisfactory outcomes. By breaching assumptions of social behaviour, we would become better able to identify the limits on behaviour; for example, in one celebrated case of behavioural disruption, Garfinkel suggested his students behave as lodgers in their family homes. This might strike us as self-indulgent and plain unethical but therein lies an important point that by changing the 'rules of the game' other possibilities for action open up. This has been a mainstream concern of those working and reporting in contexts in which the odds seem stacked against the subjects in the research. For example, in a study in Japan, Yoshihama (2002) seeks to give voice to women's experiences of violent relationships and to contribute to a support group for women so that they can address some of the problems they face.

Agency can be an object of study in its own right, as, for example, the study of the attribution of success and failure in different cultures. It is suggested, for example, that within East Asian Confucian cultures success is often ascribed to individual willpower rather than innate ability (e.g. Holmes, 2005). Though this has been disputed as an overgeneralisation, it is almost certainly the case that our views on agency are, ironically perhaps, not just a matter of our own free will.

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ANALYSIS

Analysis generally refers to the breaking down of a topic or object into its component parts and understanding how those parts fit together. To take a familiar context: if asked to analyse how a clock works (and we are assuming here an old-fashioned wind-up clock rather than a digital one), we can separate out the various wheels and winding mechanism, move them around and work out their meaning. We can, theoretically at least, put the clock back together and offer an explanation as to how each part interacts with another to enable the measuring of time. Of course, the analogy is imperfect for investigating social activity; typically, we are working with descriptions of behaviour, rather than material parts, and what we are trying to analyse is messy and overwhelming in a way that a clock is not, at least to the expert clockmaker. There is no one way for the social researcher to 'put the parts together' or an objective measurement as to whether the arrangement of the parts 'works'.

Analysis will therefore mean different things within different approaches to research: the quantitative researcher may carry out inferential analysis (exploring the relationship between variables); the explorer of networks may carry out social network analysis (mapping who communicates to whom); the grounded theorist may carry out axial coding (exploring the relationship between codes) and so on. Nonetheless, most notions of analysis carry the idea of sifting through data, organising data and exploring relationships within data, three steps more formally discussed in Miles and Huberman (1994) and paraphrased below:

- data reduction – selecting, collating, summarising, coding, sorting into themes, clustering and categorising;
- data display – using pictorial, diagrammatic or visual means to organise, compress and represent information;
- conclusion drawing – interpreting and giving meaning to data.

Through analysis, researchers will implicitly or explicitly be able to address questions such as: What made X happen in the context of the study? What else could have happened? What would have happened if Y had taken place? Why did X happen in this case and Y in a second case? Analytical accounts can be contrasted with **descriptive** ones (saying what happened) and more **theoretical** ones, which typically offer an explanation based on but going beyond the modelling of the data. However, the dividing line between analysis, description and theory is a matter of degree, not kind.

While there is some agreement, in principle, as to what analysis involves, there are key differences in how the process of analysis occurs. **Deductive** analysis is likely to take place against a top-down **coding** framework and in reference to an existing theory of social activity. Deductive analysis may involve quite formal testing of hypotheses and may well use traditional notions of **validity** and **reliability** as benchmarks of quality. Deductive analysis is often described as a step-by-step approach – data can be sorted, organised and conclusions reached. **Inductive** analysis, in contrast, seeks to develop and explore relationships between data during the course of an investigation. Most accounts of inductive analysis highlight its fluid nature: rather than carrying out a series of steps, which can be easily differentiated, the researcher is continually amending coding frameworks, and generating and discarding hypotheses from the start. Quantitative data analysis is often assumed to be deductive, but this is not necessarily the case. The researcher may be generating new and competing hypotheses during the analysis of data.

There is no reason to take an either/or approach to analysis. Exploratory inductive analysis may lead to the articulation of propositions to be tested at a later stage in a deductive manner, while deductive propositions can be re-examined in the light of findings (Hardwick and Worsley, 2011). This is sometimes referred to as an abductive analysis – an alternating focus between deductive and inductive approaches. For example, in looking at decision making by volleyball players in France, Macquet (2009) explicitly carries out both an inductive analysis (generating categories based on how players make decisions based on their recognition of context) and a deductive analysis based on a model of decision making (described as the recognition primed decision-making model).

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AXIOLOGY

This means, literally, the study of values and beliefs (from the Greek word, *axia*, meaning worth or value) and is closely related to the idea of **positionality** and **reflexivity**.

Axiology reminds us that as human beings the researcher comes with his or her own set of values and these are expressed in respect to what is studied, how it is studied and how it is communicated. However, as explored later in respect to **positionality**, it is disputed whether the researcher's values are to be embraced – for example, the researcher is partisan in favour of, say, human rights and against injustice – or moderated – for example, the researcher is seeking to counteract his or her own values by following systematic methods and various means of moderation and peer review.

BEHAVIOURISM

Behaviourism seeks to explain our behaviour, including learning and socialisation, as a consequence of stimulus and reinforcement. It is concerned with observable behaviour; we cannot uncover the hidden workings of the mind but we can directly observe episodes of stimulus (or input) and response (the output). The philosophical roots of behaviourism lie in empiricism and the idea that the mind is a blank slate or '*tabula rasa*' on which our sensory experiences are written – the contemporary metaphor might be a hard disk on which all sensory data are recorded. As such, behaviourism is closely related to, and underpins, 'classical' **positivism** in that it is concerned with the observable and what operates on an individual or group to produce a particular outcome and can be contrasted with **constructivism** and cognitivism.

Behaviourism has had a huge influence on research in, among other areas, child psychology, teaching and learning, organisational and economic behaviour. Key writers within the behaviourist tradition in psychology include Pavlov, Watson and Skinner (1953). Pavlov (1927) famously illustrated principles of behaviourism by conditioning dogs to salivate (a response) when they heard a bell ring

(stimulus). Watson conducted similar experiments with children, 'moulding' their behaviour by carefully controlling a stimulus to produce a desired response (Watson and Rayner, 1920). One of his celebrated cases was that of 'little Albert' who was conditioned to become fearful of a white rat by associating its arrival with a loud noise. Watson's approach became known as 'operant conditioning': if the correct response is rewarded in some way, the required behaviour can be reinforced. Unwanted behaviour can be discouraged by punishment, though this is not as effective in shaping behaviour as the use of rewards.

Behaviourism informs practice in many fields. For example, it has informed drill and practice in teaching, a classic example here is the so-called direct method of teaching languages, popularised by Maximilian Berlitz (1852–1921), based on direct and continual reinforcement of vocabulary and grammatical structures. Behaviourism also informed scientific methods of production (e.g. Taylor, 1911), in that organisation of work should be based on systematic observation and rewarding of efficient performance.

Behaviourism has had a particular association with 'modernism', and an obvious appeal in societies coming to grips with mass production, mass consumption, mass education and political mass movements for the first time. Behaviourism has endured, in part, because its assumptions appear intuitive across cultures and, in part, because it looks at observable behaviour rather than engaging in 'metaphysical speculation' as to how the mind works. Behaviourism has considerable explanatory potential in social research even if only at the level of reporting observed associations between events. However, behaviourism has, understandably, been criticised as offering a very limited view of behaviour – what we do as human beings concerns our sense of identity, our emotional attachments, our moral and ethical outlook and cannot be reduced to seeking rewards and avoiding punishment. Behaviourism is seen as conservative and unable to account for change or deviance: if we are socialised into acceptable behaviours, why is it that societies change? And if learning languages was 'learnt behaviour', then why, as Chomsky (1957) asked, was it that users of language were able to comprehend or construct a sentence they had never heard before (his much quoted example was 'colorless green ideas sleep furiously'), and why do learners make errors even after having been taught something and had a successful response reinforced? In other words, we cannot dismiss so easily the 'black box', which behaviourists treat as the mind; true, we largely depend on metaphorical ways of understanding its working but this should not stop us trying to engage with the complexity of thought and language

in a way that behaviourism cannot. Behaviourist principles are, further, fiercely resisted by liberal humanists who see behaviourism as infringing on the idea of the human being as a rational being invested with free will. This suggests that criticisms of behaviourism are moral as well as analytical.

Those taking a behaviourist approach need to note its close affinity to positivism and to note the strengths and weakness of positivism in social research. They should note the critiques made of behaviourism and may want to engage with more flexible and sophisticated versions, such as associationism, which is based not so much on unthinking conditioning but on understanding the successful modelling of behaviour. Bandura (1977) goes a step further and, while accepting the idea of conditioning and reinforcement, added the importance of social learning. For example, by watching others in the classroom or at play, and by receiving feedback on their own actions, children can develop good personal standards and a sense of 'self-efficacy', though, on a negative note, given the wrong learning environment or role models, they could also develop poor habits and standards and lack self-esteem. The combination of behaviourism and social learning theory has led to the idea of behaviour modification, which has been used in several settings to model and reinforce desirable behaviour and eliminate less desirable responses. Variations here might include cognitive behavioural therapy and neuro-linguistic programming, which take seriously the idea that we make strong associations with events, but, while difficult to shift, there are means to overcome conditioned behaviour.

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BIAS

Bias might be understood by way of analogy. In bowls, variations of which are played in many countries of the world, players roll a ball or

'bowl' across a lawn aiming to get as near as possible to a target. The bowl is allowed a 'bias', i.e. it is weighted on one side so that the trajectory of the bowl curves rather than following a straight line. Rather than cheating, bias makes the game more skilful and strategically more sophisticated.

In other situations, the exercise of bias may appear less benign so that we might complain of bias if the interview procedures in a recruitment process were not fair, say, the odds seem stacked against women or ethnic minority candidates. In social research, bias tends to take on both the meaning of leaning one way and unacknowledged prejudice. Hence, samples are said to be biased if they systematically favour one particular group in a 'population'. In one celebrated case, in 1936 in the USA, the journal the *Literary Digest* carried out a reader poll, supplemented by a sample generated through telephone and car registration data, predicting that the Republican candidate would win the presidential election. Instead, he lost by a landslide. With the benefit of hindsight, it can be easily seen that the sample was biased: the readers of the magazine, car owners and telephone subscribers tended to be better off and more likely to vote Republican. The sample leant towards one side. The example also suggests that the nature and extent of this bias will differ across time and place: telephone surveys are inevitably biased but the extent of the bias is much reduced in most countries today. In contrast, online surveys, which provide easy and effective ways of gathering and automatically calculating data, remain biased in favour of those with the means and confidence to access technology. This does not rule out the use of Internet surveys but rather points to the importance of acknowledging a bias and correcting for it in some way, for example, weighting the data or seeking additional data generated in other ways.

Bias resurfaces as a concept in relation to the types of questions posed to respondents. For example, a question such as: 'In view of the importance of family stability, do you feel that divorce should be made easier?' invites a particular response. Bias can also occur depending on who asks the questions (will you get different responses if the question is asked by a female or male interviewer?); how the questions are put (non-verbal communication can skew a response); and how the data are handled (systematic protocols and inter-rater reliability may reduce bias). While bias is not on the surface a difficult concept, there are interesting assumptions lying behind its use. As seen in discussion of **positionality** and **reflexivity**, researchers do necessarily have their own values and prejudices and this undoubtedly

affects the nature of their research. Indeed, such prejudices might be embraced. Research, then, is necessarily 'biased', but, beyond the limited discussion of procedures (for example, question types and sampling), the term bias is not a helpful one as it implies that there is a state of being unbiased. There is not.

BRICOLAGE

The idea of bricolage is borrowed from Levi Strauss's exploration of traditional society in which he identified ways in which people would refashion objects for new purposes. As a metaphor, it has been used to capture the flexible and inductive nature of the research process, drawing in particular on a contribution by Denzin and Lincoln (2000). The bricoleur is seen as comfortable moving between different disciplines and uses different tools, methods and techniques, whatever is 'at hand', in order to construct meaning out of data. The bricoleur produces a bricolage,

> a pieced together, close-knit set of practices that provide solutions to a problem in a concrete fashion. The solution which is a result of the bricoleur method is an emergent construction that changes and takes new forms as different tools, methods and techniques are added to the puzzle.
>
> (Denzin and Lincoln, 2000: 4)

This is an attractive proposition. We are carrying out research at a time when there is no agreement on 'paradigms' of research and increasing understanding of the inductive and serendipitous routes that real-world research takes. Surely we are all bricoleurs? However, bricolage is a disputed term and the implications for research practice are not straightforward. Crotty (2009), for example, suggests the original significance of the term bricolage lies not in the way *tools* are used for different purpose but in the way *materials* that have been discarded can be turned into something else, for example, how a discarded door could be refashioned into a table. Perhaps this is offering a much more traditional view of the research process. The bricoleur is engaged in the observation, reflection and evaluation of data rather than a self-reflexive exploration of the research process itself.

Bricolage is an appealing term but sometimes used in research to avoid committing to a particular epistemological assumption. It

provides a 'way out' of defining too closely the steps taken during a research process: 'it was all a bricolage'.

Bricolage has become an object of study in its own right and sometimes used to describe a 'trial and error' or experiential approach to learning, in particular in the context of computing and technology. For example, in an act of bricolage itself, Papert (1987) borrows the term as a way of describing learning at the computer, and Ferneley and Bell (2006) conceive of bricolage as an improvised approach to IT adoption within small firms.

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CASE STUDY

Case study does not lend itself to straightforward definition, as it comes with different associations, ones which are very often held implicitly by researchers and assumed to be shared by readers. We can begin by saying that a case is literally an example of something – a unit of analysis – in which the something could be a school, person, a political system, a type of management and so on, depending on the particular interest of the researcher and the field in which he or she works. For example, studies in medicine, therapeutic care and psychology will present *cases* of patients or clients. Freud (1909) offers a well-known historical case: that of a young boy (Hans) with a phobia about horses. The case is explored in the context of the boy's putative sexual attraction to his mother and consequent fear of his father. Freud used cases like these to generate theory (poor Hans provided the data for the much developed concept of an oedipal complex), though there is much dispute about the validity of his analyses, and the generalisations reached.

Cases need not involve first-hand (or in Freud's case recalled) accounts. For example, business and management researchers may present cases of, say, successful and unsuccessful 'dot.com' start-ups based on secondary data analysis, as in Thornton and Marche (2003)

who draw conclusions from five cases of failed high-profile companies in North America. Indeed, the exploration of cases has been a mainstream teaching strategy in business studies. Geographers may present cases of particular localities, for example, the evolution of backpacker destinations, as in the case of the beach community of Zipolite in Mexico (Brenner and Fricke, 2007). Political science has long made use of comparative cases (Vennesson, 2008). This sometimes involves a large number of cases (so-called large N studies), for example, to explore stability and change in different political systems, while the idea of 'casing' (systematically selecting examples of phenomena) has been associated with deductive methods within **comparative** studies.

In contrast to this wider view, in recent years, the term case study has become increasingly associated with an in-depth exploration of a particular context using largely qualitative methods within interpretive enquiry (Stake, 1995). Here the research is not trying to present the general picture but the particular *case* or *cases* in order to explain the 'how and why' of a phenomenon, albeit single cases can be, and frequently are, compared to other cases. One example among many is represented by Pinkster and Droogleever Fortuijn (2009). They discuss experiences of children living in a disadvantaged neighbourhood in the Netherlands and the strategies parents develop to address perceived dangers and risks. A more well-known case was offered by Haraszti (1978). This was a very readable, and depressing, case study of industrial production in a factory in 1970s Hungary. Case study can be contrasted to survey research, which does not tend to engage so deeply with context. Case study can also be contrasted with **ethnography**, though the distinction between the two is sometimes blurred. An in-depth case study drawing on participant observation is an ethnography of a kind, even if a 'full-blown' ethnographic study generally calls for much more sustained immersion of the researcher in a context than is carried out in most case studies. Case study shares with ethnography an understanding of local conditions. For example, methods used in the case study can be tailored to what is appropriate and may as easily draw on conversations and unstructured observation as structured survey. Indeed, observation may highlight tensions which are not clear in more detached survey research or not freely talked about in formal interviews.

Case studies can serve different purposes. Yin (2009) distinguishes between critical cases – for example, a case which might challenge prevailing orthodoxy; the unique case that illustrates countervailing

examples and the revelatory case chosen to gain fresh insight and ideas about a topic. Much case study sets out to be exploratory: there are few presumptions about the case prior to the enquiry taking place and it is only after the event that the case can be better presented as, say, a case which supports or unsettles orthodoxy.

Case studies can be undertaken as single cases, taking place in one site, or multiple cases across sites. This depends on the focus of attention. Consider, for example, a study of a hospital. From one perspective, the hospital as a whole might present the case: how work is organised, how labour is divided, how disputes are managed and so on. From another perspective, each department or ward in the hospital may present itself as a separate case if considering, for example, how maternity is managed, how accidents and emergencies are addressed, how terminal illness is managed. In considering multiple cases, there is a distinction to be drawn between full-blown cases and much less developed 'scenarios' or vignettes, though very often this is a difference of degree rather than kind. Much research will generate 'snapshots' or 'scenarios' of people or situations and, while these are 'cases', this is not 'case study'.

Much social research is case study. The approach is suited to small-scale studies, and many of those carrying out research, particularly research students, already have detailed knowledge of, and access to, a particular context, and are driven by the desire to find out 'what is happening' in that context. However, as a term, case study is sometimes used loosely, say, to describe what is essentially a 'mixed methods' approach, such as a survey augmented by in-depth interviewing of respondents. Case studies are often conceived as methodologies in their own right, and even as epistemologies, but, even if they have become associated with more interpretive approaches, the epistemological assumptions underlying case study should not be taken for granted. Indeed, the term case study is sometimes used as a 'catch all' and so avoids a discussion of, and taking a position on, the interpretive/positivist divide.

Some case studies are often dismissed as '**descriptive**', yet these have a particular value when a topic is unfamiliar or subjects' experiences have been marginalised. On the other hand, there is no reason why case studies, in particular multiple cases, should not be used to test a hypothesis or why data should not be subjected to statistical analysis. Finally, it is not pedantic to add that all research is case study in that it is concerned with particular units of study, and what makes case study unique or indeed helpful as a term is open to question.

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CAUSALITY

The term 'causality' refers to a very precise connection between a cause (X) and an effect (Y). For example, to say poverty (X) *causes* low educational achievement (Y) generally means that poverty and educational achievement are directly related; that poverty 'precedes' educational achievement and is not somehow a consequence of low attainment; that there is a plausible explanation as to why poverty may cause low educational achievement (for example, poverty creates a lower sense of self-efficacy) and this explanation is more plausible than others (for example, the claim that 'bad teaching' 'causes' low educational achievement).

There is an instinctive appeal in identifying causality and repeated attempts have been made to present the natural and social world as one in which cause and effect can be observed and discovered with some degree of certainty and generalisability. Causality has been a central concern of **positivism**, and it has often been assumed, wrongly as it happens, that researchers working with quantitative **methods** are *necessarily* making naïve claims of the X causes Y kind.

A more sophisticated view of causality – pretty much conventional wisdom among social researchers – sees the world as much more complicated than it first appears and takes claims to causality as 'tentative' or 'a balance of probability' and subject to countervailing

examples (see **generalisability**). In other words, social research can provide illumination of, and insight into, situations, events, issues, policies and practices, and can show important connections and correlations, but it cannot show direct causal relationships or identify causal agents. We can, based on the available evidence, for example, say that there is an association between poverty and educational attainment but we cannot say that poverty *causes* low educational achievement. Indeed, drawing out cause and effect is invariably problematic as:

- Most 'real-world' situations are inescapably complex. Staying with the idea of educational underachievement, it can easily be seen that teachers, ethnicity, language, funding, parenting, as well as the homogeneity, or otherwise, of schools will all play a part.
- In many instances, the direction of cause and effect is often unknown. For example, in relation to education and well-being, Desjardins (2008) sees educational outcomes as a set of 'dynamic interactions' rather than one-way cause and effect. He further describes education as a problematic area to research as the aims of education are contested or conflicting.
- What seems to be causality may often be what the Scottish philosopher Hume described as 'constant conjunction': X and Y seem to be regularly associated but X is not the cause of Y. From time immemorial, night has followed day but day does not cause night. In education, symbolic factors such as school uniforms, and even homework, are sometimes seen as causes of learning outcomes when in practice the relationship between one and the other is uncertain.
- Connections often occur by 'chance', or at least may be products of exceptional agency or unpredictable factors, as in the well-documented cases of schools, or particular teachers, 'bucking a trend'.

Deductive, and in particular **positivist**, approaches to social research address causality much more explicitly than interpretive approaches, which are as much concerned with 'processes' as with cause and effect. However, nearly all social research carries a sense of causality, and uses a variety of language functions to express this. For example, rather than speak of 'necessary' and 'sufficient' conditions for low educational attainment, researchers may point to a series of interlocking factors that influence/have an impact on/affect attainment in certain contexts. One criticism of some interpretive accounts

is that they confidently reject positivism as naïve but go on to introduce causal assumptions of their own without methodological justification.

Causality remains at the heart of social research, as researchers are seeking more 'scientific' or at least more justified accounts of activity than those given in everyday life. In the latter, we experience 'constant conjunctions', which we generalise as justifiable belief. Politicians and opinion leaders play on this 'instinct': they blame this group or that group for our misfortunes and offer simple solutions based on this or that policy. In the case of education mentioned earlier, we have hundreds of everyday explanations put forward to explain how to change schooling for the better on the basis of very little evidence whatsoever and it is everyday explanation (or a naïve version of causality) that tends to form the basis for policy and mobilisation of opinion. Social research offers a more rational and measured arena in which causality can be pursued, though, as seen in **postmodernist** writing, academic research may be much more ideological than many are prepared to accept.

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CHAOS THEORY

The idea behind chaos theory is that the world is not always predictable. Essentially, it puts paid to the idea that in research we can predict an effect from a cause or that if we study a complex setting we can see causality, i.e. which factors cause which effects. The roots of chaos theory can be related, arguably, to Heisenberg's Uncertainty Principle which was developed in the 1920s and first published in 1927. The full description is too long to be given here (Heisenberg's 1958 monograph provides a first-hand account of his own 'conception of nature') but essentially it can be summed up as: 'If we try to measure the movement of a particle, we affect its position; if we try to measure its exact position, we affect its future movement.' This effectively ended the justification for any belief (prevalent in Newton's era) in a universe which is entirely predictable, determined and determinable.

Chaos theory became popularised when scientists were studying complex physical systems, i.e. systems with numerous variables

involved, such as the world's weather (e.g. Gleick, 1988). It was noticed that small changes in initial conditions (the starting point) could sometimes result in major changes or huge differences in the final outcomes. This led to the classic statement often found on the Internet that a butterfly flapping its wings in the Amazon Basin could eventually lead to a thunderstorm in the USA. A more realistic way of putting this is to say that weather systems are extremely complex and, although forecasters may identify the main initial conditions on which they make their predictions, any small changes in these starting points can result in very different outcomes.

We do not live in a world which is mechanistic and deterministic. Real, complex systems are non-linear and never fully predictable. Populist interpretations of history present many examples where a chain of events is unleashed from unlikely beginnings. A crowd march on the Bastille and a wave of revolution and war is set off in eighteenth- and nineteenth-century Europe; Rosa Parkes, an African-American in the segregated South of the USA, refuses to give up her seat on a bus to a white man and triggers the civil rights movement in that country; Mohamed Bouazizi, a Tunisian street vendor, in a moment of desperation sets himself alight and the 'Arab Spring' of 2011 begins. Chaos theory offers an appealing metaphor for these kinds of events and reminds us of the unpredictability of phenomena and that the small picture is worth studying for its potential to unbalance the stability of a much wider set of networks. However, it does not excuse us from exploring the underlying conditions which lead to a phenomenon or from noting that there are thousands of small incidents every day that are, in the wider scheme things, of little consequence.

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CODES AND CODING

Coding is the process of applying tags, names or labels to items of data. It is often discussed in relation to qualitative data, in particular transcribed, unstructured interview data. These transcripts appear overwhelming and need to be made manageable through organisation into consistent and meaningful categories. How should this be done?

There are many approaches to coding depending on the focus of the research, and perhaps the extent of the data, but it typically begins with simple descriptive labels to summarise the meaning of a unit of text. Here a unit of text could be a word or more often a phrase or 'unit of meaning' within the text. These labels typically grow into unmanageable lists and need to be further grouped into larger codes. At a later stage, these larger codes themselves may be grouped into more abstract categories.

The importance of codes is that, once they are settled upon, they can be applied across sets of data. Traditionally, this process involved highlighting parts of a text with different-coloured marker pens and at times literally cutting out sections of paper; the more usual approach today is to apply codes at the computer using specialist software (such as Nvivo or Atlas) or through flexible adaptation of general-purpose packages such as a word processor or spreadsheet. Here one often reads of coding being 'carried out using a computer package'. This is a misconception: data are coded by the researcher, the program assists in the process and the reader will usually have very little interest in which software was in fact used. It is also possible to 'tag' sections from an original recording of an interview, rather than transcribed texts, using appropriate software. This has the advantage of providing direct access to the original data but a drawback is that it takes much longer to listen to speech rather than read text, and many researchers prefer to work from transcripts. There is here, too, a lively debate between those who see transcribing as an opportunity to immerse themselves in the detail of the data and others who see it as a time-consuming and unwelcome chore.

Whatever process is used, coding enables the researcher to highlight patterns and make relevant comparison within and across respondents. These patterns are often clarified by diagrammatic displays of different kinds, for example, tables showing the frequency with which a code has been applied and the number of respondents who raise it (Miles and Huberman, 1984).

In generating codes, the researcher has a choice between top-down (**deductive**) or bottom-up (**inductive**) approaches. In the former, the researcher may have a coding protocol (a list of codes with an explanation as to their attributes or properties) drawn up on the basis of an in-depth prior reading of the literature and/or practical knowledge of the context. The codes can then be applied to the data using relevant units of analysis. An inductive approach, in contrast, seeks to generate codes by examining units of meaning as they appear within texts. However, the process is not either/or. A deductively derived

coding scheme can be amended in the light of the data as they are examined and, at some point, an inductively generated scheme can become a top-down framework.

There are some, but not many, accounts of generating and applying coding within a research project. As an example, Bowen (2008) discusses doctorate research looking at anti-poverty programmes in Jamaica. He uses a **grounded theory** approach and describes three different types of coding: open coding which, as the term implies, is a flexible listing of the associations made with units of meaning; axial coding to develop more abstract and more explanatory categories; and selective coding to examine relationships between the core concepts. The role of data saturation (ensuring the completeness of the coding process) and of the constant comparative method within the research is also discussed by Bowen.

While on the face of it the process of coding is fairly straightforward to describe and is dealt with in depth by many of the research methods textbooks, it does throw up more challenges than often acknowledged. In particular:

- Coding requires a great deal of personal judgement. Decisions about coding can be, and as a matter of course are, moderated against those of others in a research team or through a process of peer review or supervisor feedback in the case of postgraduate research. This undoubtedly reduces the odds of making eccentric or idiosyncratic judgements but the process remains a personal one: the associations made with the data derive from background and experience.
- The process of applying coding enables the data to be organised but may result in it being overly organised; the researcher may miss the complexity of what is being said and the setting in which it has been said. This is discussed in depth in relation to a corpus of data (Taylor, 2008) concerning the inquiry into the death of the child Victoria Climbié in the UK in 2000. The latter was a highly publicised case not only because of the violence inflicted upon the child by a family member but also because of the response from, and lack of coordination between, relevant child protection and other agencies. Taylor, one of the researchers tasked with coding the data, argues for a complementary, more inductive approach to coding data and explains what is lost in applying deductive categories.
- There is no single agreed approach to coding or even the terminology to describe the process so that terms such as 'codes', 'themes', 'categories' and 'labels' may be used interchangeably.

- Many research manuals describe research as a step-by-step process with coding leading to later analytical judgement but some researchers will stress the holistic nature of coding – even as they are making their first open responses to a transcript, they may be speculating on relationships within the data.

Coding is a necessary part of many, if not all, research projects and decisions made about coding and procedures need to be justified. However, researchers need to offer a deeper account of the process than they often provide and to acknowledge the tensions and personal choices made within it. It is difficult, for example, to see how a coding process can be considered as ever reaching a state of **reliability** if there is no reason why one researcher would see the same things in the text as another. Nonetheless, the process is not a purely subjective one: coding choices can be justified in relation to the texts, and researchers can follow systematic processes and show a commitment to negotiating meaning often with the interviewees themselves. Researchers should provide a clear account as to how their coding process was developed, feel confident of adapting heuristic models to fit their own context and explain the judgements made and the difficulties encountered as part of an audit trail.

A final point to note is that researchers often aggregate responses to each question within structured and some semi-structured interviews rather than engage in elaborate coding protocols. Survey researchers often do the same when grouping responses to open-ended questions. Many, but not all, will argue that this surface reading of text involves some kind of thematic organisation but not coding as it is properly understood.

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COLLABORATIVE RESEARCH

Collaboration typically involves working together to achieve a shared goal. Collaboration between researcher(s) and those being researched

is often argued on a mix of ethical, epistemological and practical grounds. For example, collaboration provides opportunities for researchers to moderate judgements but it is also driven by a democratic impulse and a commitment to knowledge sharing and, as sometimes put, consciousness raising. **Action research** is frequently collaborative as change cannot be realised without the participation of others. For example, Day *et al.* (2009) present an account of nurse education in which researchers work with practitioners to improve the level of care provided for patients with delirium in a hospital ward in Australia. This is conceived as professional development *with* practitioners rather than *on* practitioners. In a more limited way, those seeking to expose conditions within a certain setting might enlist collaborators from those being researched; for example, Minkler *et al.* (2010) engage collaborators from within the immigrant community to study worker health and safety in Chinatown restaurants in the USA. Through collaboration, some of the problems of access are overcome so that it is not unusual in researching school-age children to enlist collaborators to overcome problems of access and 'psychic distance' between researcher and researched. These young collaborators might interview their peers and may assist in coding and input into the analysis of data.

Collaboration seems to arise naturally either due to the context in which the research is taking place and/or the standpoint of the researcher. For example, feminist researchers often seek collaboration as their research has a deep interest in the exercise of power and a concern that the relationship between researcher and research 'subjects' should not be a hierarchical one. In writing about her work with abused women, Morrow, for example, found it natural in the course of her research to treat the women she was researching as co-researchers (Morrow, 2006).

There is little to be said against collaboration as a goal for many types of research but it is not straightforward to achieve. Expectations need to be established and suitable ethical guidelines reached – for example, are academic publications considered as jointly authored? Collaboration has become a normative value in many cultures but expressing a desire to collaborate is not the same as making the commitment to collaborate and the search for collaboration may be ultimately frustrating as Waters-Adams (1994) discusses in an account of action research in a primary school in the UK. Claims to collaboration need to be interrogated, particularly when there is a distance between the material and intellectual resources available to the researcher and to those being researched. Much of the reported

research on collaboration describes healthy and mutually beneficial relationships; however, these tend to be cooperative agreements, in which both researcher and researched assist each other in achieving independent goals, rather than a collaborative one, in the sense of each making a significant input into a shared artefact. Researchers interested in collaboration therefore need to set out the rationale and scope for collaboration and evaluate claims made for collaboration critically.

As a final note, many of the issues that arise in seeking collaboration between researchers and researched re-emerge when teams of academics collaborate on projects. This is an arena in which all recognise mutual benefits in terms of quality control and sharing of theoretical input but is often difficult to achieve on equitable terms. Academic outputs are a particular concern and are generally covered by protocols established at the start of any project, even if in practice they may be difficult to apply.

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COMPARATIVE RESEARCH

Comparative research is undertaken in order to identify what is common and what is shared across contexts. These comparisons are usually made between systems in different countries but could be made within the same country (for example, based on north/south or east/west geographical cleavages) or could simply be comparisons made across time (for example, comparing crime statistics from thirty years ago to present day ones). In recent years, it has become much

easier to access both data and collaborators in other countries and it is not surprising that a large number of comparative studies are being published even if the idea of comparative research has fallen in and out of favour over time.

The value of a comparative approach is that it makes a systematic attempt to present a wider lens through which findings may be viewed. In one sense, all studies are comparative studies as findings are compared and contrasted to other studies, but comparative research does this consistently and systematically. For example, a classic case of the comparative approach was Almond and Verba's (1963) investigation of civic cultures in Germany, Mexico, Italy, Great Britain and the USA, which led to the identification and elaboration of contrasting 'parochial', 'subject' and 'participating' patterns of civic engagement.

At one stage, comparative studies were associated with 'hypothetico-deductive' methods and large N studies. To take one example out of many, Jong-Sung and Khagram (2004) test the hypothesis that 'increased inequality results in increased levels of corruption' by statistical interrogation of data from 129 countries. However, there is now much wider recognition that comparative studies can be carried out using both inductive and deductive approaches. Studies can, further, range from the impressionistic to rigorous thematic comparison; an interesting example, in terms of methodology, is Bleikie and Kogan (2000) who develop a thematic comparison of the reform of higher education in Norway, Sweden and the UK from an inductive analysis of data.

Those carrying out comparative studies need to balance depth and breadth. A particular challenge in comparative research is that concepts such as democracy, patriotism, poverty and pride do not easily cross borders; researchers need to understand the meanings that these hold for those being studied and not seek the kind of trivial generalisation once lampooned by MacIntyre:

> There was once a man who aspired to be the author of the general theory of holes. When asked, 'What kind of hole – holes dug by children in the sand for amusement, holes dug by gardeners to plant lettuce seedlings, tank traps, holes made by roadmakers?' he would reply indignantly that he wanted a *general* theory that would explain all of these. He rejected *ab initio* the pathetically common-sense view that of the digging of different kinds of holes there are quite different kinds of explanations to be given.
>
> (MacIntyre, 1972: 260)

In other words, the researcher has to have a feel for context. However, at the other extreme, the researcher may become so deeply immersed in understanding a context that he or she ends up with separate studies, comparison between which may seem laboured and *ad hoc*. This suggests that the rationale for comparing different contexts needs to be explained; very often this rationale will be on the basis of convenience, say, taking advantage of a network of relationships with other researchers. There is nothing wrong with convenience but better perhaps to steer the comparison to contexts that share enough in common that differences stand out. In political science, different trajectories within the socialist democracies of Eastern Europe provided one such comparison. In contrast, many 'sojourners' in higher education make the comparison between their home and host countries. This is fine in principle but the differences between the settings are often so large that there is no meaningful focus for the comparison. A subsidiary challenge here too is a lack of balance; the sojourner will have a much better understanding of the home context and this will impact both on the analysis and on the value judgements implicit in the analysis. As a final point, whatever the context, comparative research is skewed towards difference or similarity; once decided, it is difficult not to force the data in one's chosen direction.

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CONCEPT

A concept is a unit of meaning formed by comparing, and abstracting, common characteristics from different cases. For example, in relation to colour, grass, apples and the leaves on a tree all share the concept of greenness; in relation to symbolic exchange of goods and services dollars, pounds, yen and yuang all share the concept of money.

Concepts can be clarified by contrast – for example, money can be contrasted to barter exchanges; green can be contrasted to red or blue.

Concepts are the building blocks of language and hence to sharing knowledge, as they allow communication at a symbolic level. For example, sense perceptions will allow us to see, hear and feel the natural environment but we need the shared concepts of 'rain', 'wind' and 'sunshine' for meaningful social interaction to take place.

Concepts are critical to how we describe and explain the world. From a **positivist** point of view, concepts are 'real' and capable of objective definition, whereas, for a **constructivist** or **interpretivist**, concepts are 'nominal' and emerge out of social interaction to reflect human needs and interests. An anti-positivist position implies that concepts are more ambiguous than often assumed: this applies as much to the way we describe the natural world (Pluto may or may not be a planet; scarlet may or may not be a subset of red) as to the concepts we use to describe relationships between human beings. If we see concepts as constructed, we become aware that they are malleable or stretched to fit a range of conditions. We become further aware of the emergence of new concepts, such as 'netizen', 'digital native' and 'cyborg' to describe relationships thrown up by the use of new technology.

An often cited reference point for the study of concepts is Williams (1985), in which an in-depth study of so-called key words was carried out. Williams sought to explain how concepts became stretched and reworked in order to reflect the orientation and values of society. One such key word was culture. This was first used to carry an association with the tending of crops or animals (agri*culture*) but took on a more general meaning of human tending. Culture then went on to carry more abstract connotations and an association with aesthetics began. It was further stretched to cover types of personal development ('he or she is a cultured individual'); shared ways of behaving in everyday life (for example, 'youth' or 'popular' culture); and an interest in historic artefacts (the cultural achievements of a country as represented in museums and art galleries). Concepts then come with 'historical baggage' and, to mix metaphors, they carry layers of meaning.

Concepts have often been described as 'inherently contested' in that they are open to a variety of meanings for which there are no easy grounds for logical or rational discrimination. The concept of inherently contested is itself worthy of historical exploration. It was first introduced by Gallie (1956) to apply to a very restricted list of

words, such as democracy and social justice, which carried positive connotations. Over time, the concept of inherently contested has itself been stretched and there is recognition that all concepts are in a sense ambiguous. If this is the case, then, whatever the foci of our enquiries, the concepts we are using, such as class, democracy, intelligence, trust, participation, well-being and so on, need to be clarified. Take two examples. First, in the field of nurse education, Heale and Griffin (2009) carry out a systematic review of literature to develop a concept of resilience (in the context of smoking cessation) as, at core, embodying an individual's confidence, perceived capacity and perceived ability to achieve a goal. Second, Gordon (2006) takes a different approach in exploring the concept of poverty. He approaches the literature selectively (taking what appear to be the significant contributions to the field) and stresses the tensions between commentators; for example, between those who take an absolutist and those who take a relative view of poverty. He suggests that 'it often seems if you put five academic (or policy makers) in a room you will get at least six different definitions of poverty' (Gordon, 2006: 32). Gordon therefore sees the concept of poverty as never clearly defined and its meaning juxtapositioned with arguments about its measurement and its consequences. There is no single approach to reviewing a concept; much will depend on the concept itself and the traditions in which researchers choose to work.

Just as researchers are encouraged to carry out conceptual reviews, often they are encouraged to construct a *conceptual framework*. Unsurprisingly, there is no single view as to what a conceptual framework *is*; for some it is used almost interchangeably as a conceptual review, but for others it resembles a research proposal. Within more inductive approaches, a conceptual framework may provide a general orientation to a topic using a mix of published literature, personal knowledge and speculations on the kind of relationships that might emerge in the main study. Above all, a conceptual framework is tentative (Maxwell, 2005). In a deductive approach, on the other hand, the conceptual framework provides the basis for the hypothesis being tested. As an example, Lowenstein (2007) uses two previously defined concepts of parent–child relationships in later life (intergenerational solidarity and solidarity–conflict) to generate and test hypotheses using survey data from five different countries. In between inductive and deductive approaches lie well-developed analytical frameworks, which inform the study but can be discarded if found inappropriate. Childs (2010), in his doctorate research on presence in

virtual environments, produces one such theoretical framework based on models of activity theory and community of practice in advance of data collection.

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CONSTRUCTIONISM/CONSTRUCTIVISM

There are many 'takes' on what the terms constructionism/constructivism mean and many points of philosophical reference. However, they are generally used to offer a view that we are meaning makers: the world is one in which we are required to seek out meaning rather than enter a world of behavioural associations (see **behaviourism**). Hence, constructionism and constructivism can be contrasted with realism, which sees the world as having objective properties. They can, with more difficulty, be contrasted with subjectivism, which suggests we can view the world in an entirely personal or subjective fashion (see **postmodernism**) for they see constraints on our consciousness of the world. Meanings are not so much discovered as constructed: we have 'something to be working with' (Crotty, 2009), that is, the world has a material substance and we have a historical legacy in the language we use to explain the world.

At times, the terms constructivism and constructionism appear to be used interchangeably but constructionism is more often used in the context of the 'social negotiation of meaning'. A classic point of

reference here continues to be Berger and Luckmann (1967) for whom social constructionism considers the expectations of others: the individual is not so much asking 'How should I act in this situation?', rather 'How do others expect me to act based on my social identity as male/female, young/old, black/white and so on?'. This introduces a level of reflexivity and the question 'What do I think that others are thinking about how I should act?'. Over time, we become used to playing out our allotted roles and Berger and Luckmann (1967) use the term 'reification' to describe how we apprehend institutional arrangements as though they were timeless, even God given, rather than recognise them as the products of agreements between human beings.

Berger and Luckmann (1967), like many other social researchers of the time, tended to stress the taken-for-grantedness of the world and their views have been criticised to some extent as missing the capacity for change at an individual and group level; they are also criticised, in another line of argument, for missing the material rather than symbolic basis of some human activity. However, the great legacy of their work has been to ask us to look beyond appearances and seek to 'deconstruct' how and why social arrangements have come about and in whose interests they exist.

Many researchers working today would describe themselves as influenced by social constructionism, suggesting that a phenomenon can never be captured 'objectively'; instead, we need to construct shared understandings of social activity. A key challenge here is to maintain consistency. Many dissertations and theses, for example, begin with a view that social reality is constructed then treat the constructs in the research as unproblematic. Social constructionists need to adopt critical and reflexive practices based on recognition that the methodology they are following is itself a social construct.

Constructivism as an epistemology can be contrasted with constructivism as a theory of learning. The two are obviously interrelated, with researchers working in the latter tradition focused on how the learner makes sense of new information. Here Piaget's discussion of accommodation and assimilation of knowledge remains influential in helping to understand the types of teaching environments which best assist children in the process of constructing knowledge. Social constructivism has, further, acquired a particular meaning in the context of education theory to suggest an interest in the 'tools' used by the learner to cross a 'zone of proximal development': the difference between what is known and what, with the help of a knowledgeable other, can be learned (Wood, 1988). Vygotsky (republished 1978) put

a particular emphasis on language as a tool for learning, and social constructivism as a pedagogical theory has been used to justify a range of practices from interactive instructional strategies to unstructured communities of practice.

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CONTENT ANALYSIS

Content analysis generally refers to a systematic attempt to identify the frequency with which certain words, functions or concepts occur within a text and, at a more challenging level, to explore the context in which these words are positioned for rhetorical or other effect. In this, 'text' has become widely used to refer to any kind of product that is created to communicate meaning and may consist of words, signs, images and film.

To illustrate the concerns of content analysis, we can look at some examples of its application in the representation of gender in the media. Furnham and Mak (1999) explore gender representation in *television* advertisements by carrying out a meta-review of fourteen studies from five countries. Adverts were considered in respect to gender, role, location, age of presenters and nature of the arguments to support the advertisers' claims, from which the researchers reached the conclusion that gender portrayal has become less stereotyped in 'western countries' over time. In a similar vein, Hung and Yiyan Li (2006) discuss *images* of women in magazines in contemporary China. They used categories, which appear to be deductively constructed, to explore the representation of women and suggest that the 'urban sophisticate' figure is represented strongly in the advertisements in these magazines. A third example concerns content analysis of newspaper *articles*. Kim and Yoon (2009) develop a coding scheme to assess how positively or not women cabinet members were treated in news reporting. In this way, they were able to relate the tone of the reporting to, where possible, the gender of the journalist

and it was suggested that there was an association between gender of the journalist and the representation of women in the press.

In all of these examples, content analysis proceeded by identifying a text or texts for analysis (the corpus); the unit of analysis (in practice, very often a 'unit of meaning'); the categories to be used to label each unit of meaning; and a count of the frequency with which these categories occurred. Content analysis can be seen as providing a systematic way of breaking down a text and providing evidence for interpretation. This is a process which is generally facilitated by adaptation of general-purpose or specialist software.

As with **coding** (and content analysis is a kind of coding), the researcher is faced with the choice of creating codes inductively or deductively, depending on their particular epistemological perspective. Researchers should follow consistent coding protocols, reinforced by measures of inter-rater reliability, though, as seen when discussing coding, there will always be an element of personal interpretation.

While content analysis provides a seemingly objective basis for describing and comparing texts, researchers need to be careful not to make overarching claims for its value. It is easy to jump from an analysis of a text to claiming insight into the intention of the author of the text, or its impact on the audience. For example, content analysis may provide an 'objective' breakdown of the representation of gender in certain texts but just how important is this? Is stereotyping intentional? Is stereotyping a matter of cause or effect? In other words, texts need to be considered within a social context (see **discourse analysis**).

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CONVERSATION ANALYSIS

Conversation analysis is the exploration of interactive conversation with the idea that such analysis will lead to exposure of patterns

within talk. Steps in conversation analysis include the transcribing of conversation (attempts have been made to do this automatically through speech input software but not altogether successfully); the marking up of text using a specially constructed set of conversation markers; and the investigation of patterns such as 'turn taking' and 'repair' (how parties to a conversation deal with difficulties in understanding each other). Conversation analysis has roots in the work carried out by Sacks and began with his analysis of recorded calls to a suicide helpline at which he worked in the 1960s in the USA. Rather than seeing these calls as unstructured, he discovered patterns in the conversation, for example, ways in which callers were advised to find help. Later, the approach was seen as having a more general application to conversation (Sacks *et al.*, 1974) and became an established part of an approach described as ethnomethodology, used as a way of explaining how order is negotiated between speakers, often in institutional settings.

Conversation analysis has been taken up in a wider variety of contexts, very often naturally occurring ones, and has been seen as particularly helpful in understanding how patterns of talk reinforce order, often as a way of closing down options for at least one of the parties. Some examples include Kitzinger (2000) who, working within a feminist approach, applies conversation analysis in researching 'date rape'; Briggs (1997) who uses conversation analysis to explain the supposed confession of a woman in Venezuela being tried for infanticide; and Mushina and Gardner (2009) who use the approach to explore the acceptance of silence within Aboriginal conversation in Australia. While conversation analysis may be considered a type of discourse analysis, it has particular roots in the exposure of the 'taken for granted' within conversations, which sets it apart from the wider notion of discourse analysis.

Critics of conversation analysis see it as too concerned with minute details of conversation, providing too rigid protocols and missing the wider context in which power is exercised (see Kitzinger, 2000). Power relationships cannot be changed by changing patterns of speech.

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CRITICAL THEORY

Most commentators see the intellectual roots of critical theory in a particular movement based in Germany in the first half of the twentieth century, known as the 'Frankfurt School'. Central to critical theory (or 'Critical Theory' in upper case if referring to the Frankfurt School) was that social theory should have an emancipatory purpose: as put, and widely cited, its goal was 'to liberate human beings from the circumstances that enslave them' (Horkheimer, republished 1972). Critical Theory had a concern for developing a 'critical praxis' based on an understanding of the shortcomings of a system and the potential for something much better. While rooted in 1930s Germany, critical theory became popular in, and a source of inspiration for, counter-cultural movements in western countries in the 1960s. One of the most widely cited books of this period was Marcuse's *One-Dimensional Man* (1964), which argued that critical thinking to advance the good society had been closed down through the influence of mass media, industrial management and indeed that of academic practice itself. It should be added that Marcuse extended this critique to the Soviet system and provided a later 'immanent critique' in the sense of comparing the practice of Soviet Marxism to the claims made for it.

Critical theory has a particular focus on the way our judgements of the world are clouded by instrumentalism: true rationality emerges from a consideration of ends not just means. Building on, and further contributing to, Critical Theory, the German social theorist Habermas (1984) differentiated knowledge as technical, communicative and emancipatory. The first is concerned with empirical generalisation; the second is broadly interpretive; while the third is focused on liberation from oppressive situations – this is a type of critically reflective knowledge. All three forms of knowledge have a value but the first two have dominated social research – not surprisingly, perhaps, given the influence of positivism and, more recently, interpretivism. Critical reflective knowledge is about change and about using social theory to bring about rational change. Critical theory, then, is concerned with normative values such as democracy, fairness, equity and how social

cultural forces, as much as legal and physical conditions, restrict us from realising change. It generally takes a 'cross-disciplinary' approach and draws on concepts developed in philosophy, social linguistics, sociological explanation, literary understanding and so on. It draws on its Marxist heritage to argue the 'dialectic' necessity that in order to change the world one must seek to understand it and in order to understand the world one must seek to change it. As put by Carson (1990), in relation to Horkheimer, a critical theory is adequate only if 'it is explanatory, practical, and normative, all at the same time'. Thus, critical theory must explain what is wrong, who can change it, what kind of change is needed.

In recent years, critical theory has acquired a more particular meaning in relation to a type of literary engagement, which draws on the work of the French philosopher Derrida. However, of more general interest is the way in which the prefix critical has been applied to studies in almost every area of social research. Four examples are provided below:

- **Feminist methodology**. This has been described by some as a type of critical theory which takes as its position that inequality between men and women is fundamentally 'what is wrong with society'; it seeks to explain how this inequality has come about and to do something to redress it through participative and collaborative action.
- Critical pedagogy. This has developed from the work of Freire to suggest a kind of educational practice that involves a dialogue between teacher and taught rather than a transmission of knowledge. Teaching can become a more cooperative activity allowing those being taught to gain a better understanding of the causes of oppression. As an example (Freire, 1974), a critical literacy intervention would help learners reflect on and critique the world rather than engage with 'empty representation of reality' found in most adult literacy texts.
- Critical **action research**. This proposes a collaborative, iterative approach to change which aims at the transformation of practices and understandings of the situations in which participants live and work. Critical action research is differentiated from other action research in its concern to consider the ethical and practical nature of action rather than apply a best-fit solution that takes for granted existing arrangements of power and responsibility.
- Critical **discourse analysis**. Here the aim is to analyse texts by considering the relationship between language and society and the

way that power relationships and hegemonic practices are represented and reinforced.

The strength of critical theory, and in many ways its appeal, is its cross-disciplinary focus; its concern to discuss values (or desirable ends) and its action-orientated focus. Those following critical theory need to be at home in arguments about philosophy as much as in the concepts and techniques often covered in most social research textbooks. Critical theory is not so much a methodology but a commitment to the logic of critical reflection; those interested in pursuing critical theory should consider a range of studies in cognate areas rather than expect to find an 'off-the-peg' procedure to follow. Critics of critical theory find the approach value laden: the complaint is not about the values per se, which many critics share, but the disconcerting shift from 'what is' to 'what ought to be'. Critical theorists start from the premise that we should not take the world for granted, yet arguably acceptance is a normal state for many and critical theory struggles to explain this away. Critical theory has, to varying degrees, a commitment to **collaboration** and, as discussed earlier, this creates tensions and difficulties.

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CRITICALITY

Criticality is open to contrasting meanings but generally involves the exercise of careful, deliberate and well-informed judgement. This can be contrasted to its more pejorative everyday meaning of finding fault, being 'judgemental', 'nit-picking'. Being critical is valued in academia as it involves having the confidence to make informed judgements. It is about finding one's own voice, and stating one's own standpoint, in the face of numerous competing voices.

Exercising criticality involves careful evaluation of the strengths and weaknesses of other people's ideas and being fair without showing excessive humility or arrogance. Within the western university in particular, it is both accepted and expected that academic enquiry will involve questioning the work and ideas of others, and students are often advised to be critical or 'more critical' by tutors. Criticality may be less prized in other cultures and the importance given to it may wax and wane across time (Johnston *et al.*, 2011). This has left some researchers in awe of certain authors or 'authorities' and a tradition of deference continues in some university departments. However, being critical can become a dogmatic stance for some researchers who seem instinctively 'contrarian' for the sake of it. Assumptions about the value of criticality need to be continually revisited.

Having established a role for criticality, what is there to be critical about? One can certainly be critical of the literature on a topic and take a more 'profane' view as to what has gone on before (see **knowledge**). The critical researcher may uncover what has been previously ignored and draw attention to any systematic 'bias' in reporting of research. This may lead to a critical stance in respect to the discipline in general and, perhaps less comfortably, how disciplinary knowledge is represented in an institution. How far, for example, can the 'disinterested pursuit of truth' exist once academia becomes 'massified' (Barnett, 1990) and subject to external control and external funding? In other words, academia values criticality but does it really exercise criticality? However, the exercise of criticality should not stop at the discipline or institutional level; it also involves a kind of **reflexivity** as to one's own thinking, beliefs, faith and knowledge, not just other people's. This requires a sensitivity to, and awareness of, our own biases, prejudices and preconceptions. Criticality is both a skill and a disposition.

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DEDUCTION

The deductive method seeks to draw valid conclusions from initial premises. It follows the logic of syllogy expressed in classical form as:

All men are mortal (major premise)
Socrates is a man (minor premise)
Therefore Socrates is mortal (conclusion)

Deduction as an approach to social research has had considerable appeal, particularly over the past century, and has been most clearly associated with a kind of classical and logical **positivism** discussed elsewhere. To its defenders, deductive or 'if … then' logic appears to explain how natural science addresses real-world problems (Chalmers, 1982). For example, if our general theory is that all metals expand when heated, we can reason deductively that *if* a railway track is made of metal *then* it will expand as its temperature rises. Hence, gaps need to be left between lines, or certain, perhaps dire, consequences will follow.

In its purest form, deductive logic has been associated with the hypothetico-deductive approach. This involves generating and formulating quite specific hypotheses about phenomena generally on the basis of existing practical and theoretical knowledge (see Bless *et al.*, 2007, for a particularly clear description). The hypothesis is then tested under experimental conditions. If the data support the hypothesis, then the hypothesis can be said to hold in a particular context; if not, then, assuming that the research was well designed and carried out rigorously, the hypothesis, and the theory which underlies it, is challenged or at least the limits of the theory may have been reached. The cyclical nature of hypothetico-deductive research means that data are continually being collected, and theories are continually being refined and their limits identified as the body of observations grows.

The hypothetico-deductive approach is most associated with the scientific or experimental method but also underpins desk-based research such as large N studies, meta-analyses and systematic reviews (see **case study** and **literature review**). A popular outlet for deductive logic is so-called 'freakonomics' (Levitt and Dubner, 2005), though this is a much more 'hit and miss' approach involving exploration of large data sets rather than careful articulation of a single hypothesis. An aim, or at least an outcome, of the approach is to illustrate unintended or unexpected associations between cause and effect. One well-publicised example is Donohue and Levitt (2001) who claimed an association between legalised abortion (since 1973) in the USA and a drop in crime 18 years later.

While powerful, deductive logic is criticised on several grounds. First, as discussed elsewhere (see **paradigm**), it is seen as misrepresenting

the methods of natural science and, for that matter, makes an assumption that all disciplines in natural science work the same way when they do not. Second, it carries an inbuilt logic of confirmability: as Glaser and Strauss (**grounded theory**) complained, if you go looking for an association you are likely to find it. Third, it focuses on association between events but fails to provide the detailed analytical explanation that is a necessary part of establishing **causality**. A classic example, enjoyed by statisticians (e.g. Matthews, 2000), has been the identification of a significant relationship between the number of white storks in a country and the birth rate suggesting support for the folkloric legend that storks bring babies. In fact, any correlation is the result of a third factor and the supposed association is 'spurious'. Deductive logic is only as good as the initial premise and again a classical example of this is:

> All men are immortal (major premise)
> Socrates is a man (minor premise)
> Therefore Socrates is immortal (conclusion)

Here the conclusion is logically valid but the major premise and therefore the conclusion is false.

Deductive arguments can be misleading. Theories need to be considered critically, conceptual frameworks need to be developed, and operational or test procedures considered carefully. Deductive research can provide support for propositions, but not proof. Deductive methods are less popular than they once were but as with positivism the deductive legacy lives on. For example, many social research guides are sceptical of the hypothetico-deductive method but do present instead a loosely deductive framework for the research process in which questions are posed, data collected and conclusions reached within an orderly, linear process (see **research design**). This can lead to the worst of both worlds in which the researcher is hampered by inflexibility and bias towards confirmability, which are features of the deductive approach, but is unable to exploit the rigour of the hypothetico-deductive method as hypotheses are not clearly articulated.

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DELPHI METHOD

The Delphi method presents a structured, iterative approach to eliciting expert opinion on a topic. The name (not one to everybody's liking) comes from the Oracle of Delphi in Ancient Greece where people went to hear the 'voice' of the God Apollo as spoken through the priestess of the oracle. The Delphi method is now used in several contexts to produce 'oracular statements' regarding the future, though those consulted tend to be experts in the field rather than metaphysical entities. The Delphi method, like **game theory**, has roots in strategic military planning but has been used to imagine technological futures, risk assessment, product generation, health care and so on. Many 'think tanks' and policy-generation units engage with Delphic method-type thinking even if they are not following a rigid set of procedures or labelling it as such.

A common feature of the Delphi method is the construction of a panel of experts and the collecting and interpretation of expert responses to questions over two or more rounds. The criteria for the selection of experts vary, but in most cases researchers will try to create a panel that reflects a wide range of experience and a diversity of opinion. Once recruited, the experts are asked a series of questions, using either interviews or questionnaires. Generally, a broad range of topics is examined in the first round, and open-ended questions may also be included to explore the personal reactions of the participants. In later rounds, however, a limited range of topics may be explored in a more structured way. The analysis of results is usually presented so that the participant experts can see the entire range of responses. However, it is important to preserve anonymity as participants need to be able to revise their views without publicly admitting that they have done so. This encourages participants to take up a more personal viewpoint rather than the more cautious institutional positions that they may feel obliged to adopt in public.

Findings are sent to respondents with an invitation to revise their initial predictions if they wish. This may be undertaken with the aim

of trying to construct a consensus or convergence of opinion once the views of other respondents are known. An example of this is a report (Jeste *et al.*, 2010) on a Delphi group who were able to reach consensus on the 'characteristics of wisdom' across two rounds of interaction. Indeed, the aim of the researchers was to reach an agreed definition of a construct, one which has obvious value and a common sense appeal in many health and educational contexts, but the meaning of which has remained elusive. However, other researchers may be more interested in divergence within their panels and seek out countervailing and outlier opinions. As a recent example, a panel considering global societal trends and their likely impact on radicalism in the Netherlands (van de Linde and van der Duin, 2011) reached no consensus; indeed, the 'dissensus' within the panel was identified as an important research outcome.

The main strength of the Delphi method lies in the way that it utilises expert opinion to produce forecasts taking into account a wide range of interrelated variables. The Delphi method is also a useful device for communicating with professional and lay groups as it emphasises tangible outputs. Finally, from the standpoint of the researcher, the method has the advantage of being relatively inexpensive to organise and administer, much more so with modern communication technology that allows panels to be constructed across barriers of distance and time. However, any Delphi method research depends on gaining access to a panel of experts in the first place.

The Delphi method is vulnerable to charges that it operates without theory and that its protocols are designed to produce consensus irrespective of historical truths. In practice, many users of the method show a lack of criticality concerning the construction of the groups and the very notion of an expert opinion is taken for granted in a deeply problematic manner.

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DESCRIPTION

A descriptive account is one that tells the reader or listener *what* happened. Description is a necessary part of any research, as, no

matter how abstract or 'theoretical', the reader needs a context on which to hang the theory. Furthermore, descriptive accounts have an added value in exploratory research when not much is known or has been articulated about a context. For example, to complain that early ethnographic studies such as Mead's *Coming of Age in Samoa* (see **ethnography**), or Lewis's *The Sanchez Family* (see **life history**) were excessively descriptive is to miss the point. These authors needed to make intelligible to the reader (or a particular kind of reader) contexts which were unfamiliar in a way they would not be within today's much more globalised societies. Just as importantly, they introduced the reader to voices which were unfamiliar and marginalised: this remains a concern within, in particular, ethnographic, narrative, life history approaches.

Description, however, is often held up as a 'poor relation' to analysis and evaluation in social science research and for that matter as a stage in cognitive development – for Bloom (1956), it lies at the bottom of a cognitive hierarchy. The researcher will be criticised for being overly descriptive no matter in which tradition they are working. However, description is easily underrated as the researcher needs to exercise discretion as to what is included and omitted and needs to develop an appropriate framework for structuring the description.

There is an important distinction to be made between *thin* and *thick* description. Thick description seeks to provide a detailed account of an aspect of human behaviour through reference to the context in which it takes place. The term is borrowed from the philosopher Ryle (1968) who argued that actions took place in a world of shared meanings. His example concerned 'winking'. A photograph could capture the movement of the eye but not the meaning of the act; it could not differentiate between an involuntary twitch and 'winking' at someone, which in many cultures is used to signal a secret understanding as to 'what is going on'. Thus, to understand the meaning of an eye movement the observer needs to be familiar with the behavioural codes, not just behaviour itself: the thin description describes the act; the thick description deals with the meaning of the act.

The idea of thick description was taken up and developed by Geertz in *The Interpretation of Cultures* (1973) and it is his account of cock fighting in Bali that is often seen as a model of thick description. It takes an event that is not easily understood by an outsider (cock fighting) and makes its meaning comprehensible by explaining the rituals, the rules, the political context and even the language used by participants. It is a reflexive account, written in the first person, in which the status and role of the researcher is made explicit, though

Geertz does not take a moral position on what is being reported. It uses rhetorical devices as would a literary text – it resonates to some extent with Orwell's (1950) literary account of shooting an elephant in colonial Burma. It wears its analysis lightly, but behind the account there lie many field notes and inductive analysis, even if this is not made explicit. Geertz did not offer a lengthy account – in fact, at times it appears quite minimalist. There is artistry in capturing what is important in a description and it is the omission of extraneous detail that creates a compelling thick description. In practice, however, thick description has been adopted as a term to cover descriptive reporting in many research theses to justify lengthy description. This is to misunderstand the term.

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DETERMINISM

In contrast to agency, determinist explanations tend to see human behaviour as the result of external factors, such as the influence of the mass media; the effects of socialisation into a family structure; or the application of rigid caste or class systems, rather than as generated by internal motivation and intention. This is indeed supported by everyday observation. The gender, family, ethnic background, geographical location, social class and the stage of technological development into which someone is born is, or appears to be, a completely random occurrence, but once known we can – with some degree of certainty – predict a person's educational attainment, the kind of career they will undertake, the health problems they will encounter and the age at which they will die. In a further twist, we might also predict the likelihood of their rebelling against social expectations before going on to fulfil them. Each of us has to a greater or less extent a life mapped out; in more traditional societies, this is heavily proscribed by law and enforcing of customs but in open societies it is created by social expectation. In regard to the latter, Berger wryly

comments that on investigating the phenomenon of 'falling in love' one finds:

> channels of interaction which are almost rigid to the point of ritual. The suspicion tends to draw on one that, most of the time, it is not so much the emotion that creates a certain type of relationship, but that carefully planned relationships eventually generate the desired emotion. In other words once certain conditions have been met or have been constructed one allows oneself 'to fall in love'.
> (Berger, 1966: 13)

This is a telling example but there are problems in seeing social behaviour as 'determined'. For example, nearly all of us have repeated experiences of seeing people acting in ways they are not expected to do: they marry the 'wrong' partner; they start from a humble beginning and have meteoric careers; they are brought up in stable and loving families and they 'go off the rails'; they protest and develop militant attitudes. As human beings, we transgress as well as conform. We do not simply soak up what is around us; our lives are invested with personal meaning. Second, and leading from the above, societies are not static. This is arguably much more the case in a postmodern world in which customs and traditions weigh less heavily on us and we have a wider range of choice. If, for example, we take the idea of courtship and marriage proposed by Berger, we find same-sex partnership sits alongside arranged marriage in many western countries and that attitudes to cohabitation and divorce have undergone considerable changes in more traditional societies.

There is no satisfactory account of how our behaviour is determined though there have been many attempts to do so. Structural functionalism, owing much to the influence of Parsons (e.g. Parsons, 1951), was influential in the fields of anthropology, politics and sociology, particularly in the 1950s and 1960s, and identified ways in which norms, customs, traditions and institutions held society together. While this provided a lens on social institutions, it did not provide an explanation of internal motivation – the idea of latent functionalism was even introduced by some to describe how the real purpose of activity might be hidden from those taking part. Social **constructionism** in the 1960s provided another attempt but was as much concerned with the limits of agency as structural determination. Ethnomethodology (see **agency**), meanwhile, seemed to blame determinism on our limited imagination and Marxism on a hegemonic culture that managed

the consent of populations (see Sassoon, 1987). A mix of approaches, building on anthropology and literary theory, described as structuralist or structuralism, became popular particularly in the 1960s and 1970s. More recently, cultural studies and critical discourse analysis provide a new lens on the exercise of power and social identity, even if they leave many questions unanswered.

Where we stand on determinism versus human agency is, ironically, framed to some extent by our own experiences and background, but for many the idea of a determined life sits uneasily with an assumption as to what it means to be human. While conformity was for Berger (1966) the subject of gentle teasing, for others it is a matter of regret and condemnation. Indeed, critical theory is insistent in asking us to challenge what is taken for granted. However, it can be asked why should people not choose to accept 'the hand they have been dealt' if they feel that the consequences of change might be worse. Indeed, by taking most aspects of the world for granted, some are better able to expend time and energy in looking at arenas in which their agency can flourish.

Undoubtedly, most social researchers today accept, in the gendered language of the time, that 'men make their own history, but they do not make it just as they please; they do not make it under circumstances chosen by themselves, but under circumstances directly encountered' (Marx, 1977: 300). Researchers tend to see 'determination' more as a question of probability ('life chances' are loaded one way or another); of habitus or disposition formed though experience (Bourdieu, 1977); and of varying degrees of access to 'cultural' and 'social capital' rather than the inevitable consequences of privilege or deprivation. Culture appears to be a major constraint on agency, but, following Giddens (1984), we are more ready to see how we ourselves contribute to, and maintain, cultures rather than seeing culture as reified and immovable. Many researchers remain deeply interested in identifying factors that influence behaviour at a general level but are wary of the 'ecological fallacy' in which the decisions taken by an individual are explained by extrapolating from the behaviour of the group.

As with all perspectives on social research, the focus on determinism has shifted over time. Social researchers appear to be more distrustful of determinist explanations of social activity. However, it remains important to understand the limits on individuals and, in reviewing data, look as much for what is not said as for what is said. In interviewing, the researcher should seek to develop lines of hypothetical or counterfactual questioning, for example, 'What would

happen if you tried to change your behaviour?', and to imagine what 'could be' for a group, an organisation or a sect rather than simply describing 'what is'. Researchers might try to view, and ask collaborators and respondents to view, the same event, first, as if it were a product of intentional social activity and, second, as determined by factors external to the participants. Which approach better fits the data as they have been represented?

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DIARIES

A wide range of documents is available to researchers: letters, memos, government publications, minutes of meetings, prospectuses and so on. In a sense, all these documents are *pre-existing*, i.e. already written. The researcher's job is one of gaining access to them (if possible) and analysing them as a source of data (see **documentary research**). In contrast, a researcher may initiate a document such as a diary during the course of a project as an additional source of data that can be used to explore informants' activities and provide records of behaviour. Diaries can provide informants' own versions or interpretations of events. As an example, Sargeant and Gross (2011) use diaries to chart the experiences of young people living with inflammatory bowel disease and see these as providing more immediate and intimate data on a sensitive issue.

A diary can be a valuable complement for other methods and is particularly important when **observation** is impossible (for reasons of time and money) or ethically unacceptable (invasion of privacy or too overbearing). In any case, observations are often spread out, unpredictable and haphazard; they provide only a snapshot and are often skewed towards what those being observed imagine that the researcher wants to see. A standard format for diary keeping is a

chronological account of events with the diarist's own interpretation and reflection upon them. However, the same template will not fit all research projects. For example, diarists can be asked to be discriminating in their entries and to look out for, and record, critical events – ones which really 'stick in their minds' rather than adhere rigidly to established protocols. Diaries are generally kept as paper-based documents, but in appropriate contexts can be produced online (for example, a private blog or indeed a shared online blog) and increasingly respondents might be asked to keep audio diaries using handheld recorders – as in the Sargeant and Gross (2011) study cited earlier. More imaginatively, respondents can be asked to talk to a camera – a technique with a high level of familiarity in many countries through television's *Big Brother* 'diary room'. As Buchwald *et al.* (2009) argue, this may have a particular attraction when seeking to access voices of younger people.

The practical problems of getting informants to keep a diary consistently and reliably over a period of time (even a single entry a week) should not be underestimated. Keeping a diary is extremely time consuming and mentally demanding. One solution is to pay respondents for their efforts. Another is to persuade the diarists of the importance of contributing to worthwhile research. Researchers should, then, introduce their expectations carefully at the start of a project and check each diarist's progress, addressing doubts or questions, make encouraging noises and generally 'chivvying' them along. Diarists need to be thanked profusely. Diaries raise further ethical questions surrounding questions of access and anonymity. These have to be addressed in advance and renegotiated as difficulties arise. For example, the diarist may lose sight of the audience for the diary and may not be aware of potential consequences of describing the behaviour of others.

The methodological problems associated with diaries are diverse. Diaries are especially suited to those with confident communication skills, who prefer to write (or speak) their thoughts in their own time as opposed to being questioned or observed *in situ*. However, many potential informants may be reluctant to write a diary and the researcher needs to be aware of a 'bias' when using diaries as sources of data. In interpreting diary entries, researchers need to consider questions of accuracy. This can be done quite literally in the case of comparing perception to recorded behaviour, as, for example, in Werner *et al.* (2008) who compare 'actigraph' (i.e. logged data) against reported sleep behaviour of children in a study in Switzerland. However, in many situations, there are no observation data to be

compared against and, in many cases, the researcher is simply interested in accessing a 'perception of reality' rather than establishing criteria of veracity.

All researchers will be interested in understanding what was included and what was left out of diary entries (see **documentary research**). Researchers need to be sensitive to the 'Hawthorne' effect, for example, keeping a diary on healthy eating or on participation in sport may lead the diarist to eat more fruit or take more exercise.

Diaries can be a valuable and interesting research method in themselves, but it is worth noting that several writers see their main worth as the precursor to in-depth interviews. According to these authors, the purpose of the follow-up interview is to allow *expansion*, i.e. filling in missing details, and further *exploration*, i.e. probing more deeply into the diarist's attitudes, experiences and beliefs. Diaries then are not without their practical, methodological and ethical problems. But they can be a valuable alternative way of gathering data and can provide a rich complement to, say, interviewing and observation. They do not figure as strongly in research as they could do and perhaps this is because of the practical and ethical difficulties.

The researcher's diary

Researchers are frequently encouraged to keep their own diary as a history of a research project, and diary entries may serve as an 'aide-mémoire' for incidents and development of hypotheses during a research project. The diary may also remind researchers just how far they have come – how much has been covered and how their thinking has developed. In reporting research, the diary may be treated as an additional source of documentary data, distancing the writer from the events being described. Again, with the widespread take-up of new technology, it is increasingly common for researchers to keep personal blogs charting their research journey. The researcher/blogger should, however, think carefully about potential audiences for the blog and monitor access permissions. A problem for all researchers is to find the self-discipline to keep a research diary up to date, and the self-imposed requirement of, say, a weekly entry can be very helpful.

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DISCOURSE ANALYSIS

Discourse analysis, as with many of the terms in this book, holds different meanings. However, the most usual context in which it is used is the examination of texts in naturally occurring situations, with a particular focus on spoken and written communication. **Conversation analysis**, considered earlier, *can* be seen as a subset of discourse analysis with a particular interest in spoken exchanges, the maintenance of order and an adherence to a widely agreed set of analytical procedures.

Discourse analysis examines texts and the context in which they are accessed. To give some examples:

- Mercer has shown the importance of categorising classroom talk (disputational, cumulative and exploratory are foundational categories) in order to make judgements on the quality of classroom interactions (e.g. Mercer, 1995). Functional categorisations of language have further been undertaken in online message analysis, though with mixed results (e.g. De Wever *et al.*, 2006).
- Gender has been another rich area for discourse analysis with early research (e.g. Tannen, 2001) suggesting that men are more likely to engage in 'report' rather than 'rapport' talk, with the result that the former is privileged over the latter in institutional settings.
- Discourse analysis has a particular relevance to ways in which we think of foreign- or second-language learning; here ideas of communicative competence have become seen as an important and more productive lens to gauge language proficiency than grammatical and structural accuracy (Paltridge, 2007).

A recurring challenge within discourse analysis is not simply to describe the patterns within linguistic features or structure but how and why language is used. This brings in considerations of authorship, intention, audience and how texts are understood by an audience. **Content analysis** contributes to this but is more focused on the structure rather than purpose of texts. Instead, discourse

analysts have tried to go 'beyond the text' in order to examine the social cultural positions of texts, the cumulative nature of conversation and the shared meanings built up within audiences. Increasingly, texts are seen as 'intertextual' in that they are produced and interpreted with reference to other texts (see **documentary research**). Given these varied interests, there is not one particular method associated with discourse analysis but methods fit for different purposes.

A particular branch of discourse analysis is interested in discourse in a more general sense, as put by the French philosopher Foucault the way we 'construe' the world. Critical discourse analysis (CDA) explicitly looks at the way in which language is used to bring 'coherence' to power and ideological positions (Fairclough, 1995). The purpose of CDA is to analyse text in terms of its organisation by grammar, structure, vocabulary and so on, but also how texts are produced and 'consumed' in society. A very large number of studies have been undertaken which are informed by CDA with particularly prominent examples in racist representation media. One example here is Quayle and Sonn (2009), in which the representation of Muslims as 'outgroups' in the Australian media is explored. CDA has also been applied in relation to more everyday discourse in health and education services and in professional organisations. Wodak *et al.* (2011) provide an example in the context of chairing meetings. They have a particular focus on the language strategies used to bond, encourage, direct, modulate and (re)commit others, and look at the impact of these strategies on the conduct of meeting and the outcomes for an organisation. Critical discourse analysis has a close association with critical literacy or new literacy studies, which are aimed at understanding how power and dominance are exercised as discourse (e.g. Barton and Tusting, 2005). However, CDA is not without its critics; in particular, it is seen as starting out with a priori assumptions and forcing a reading of the text into a top-down frame of reference (Widdowson, 1998).

Discourse analysis has a focus on both what is said and what is published. This provides different methodological challenges. What is spoken is frequently in an immediate context, it is much less dense and more responsive to feedback than written text. In contrast, written texts are produced for a removed audience; in structure they are denser and more explicit. Film scripts – and, to a degree, online communication – are interesting examples in which written text is used to imitate speech. Discourse analysis has not surprisingly been increasingly concerned with the images as texts (see also **visual research methods**). As an example, Gee (2011) sees the 'tools' used

for general discourse analysis as applicable to the study of images so that visual analysis may begin by identification of the key elements within an image or images, how these fit with wider patterns of situated meaning and social language, alongside a reading of intertextual references. These tools are illustrated in the contexts of multimedia gaming and advertising. The former, for example, use the social language of a fantasy world and very often explicitly reference films. In doing so, multimedia products enable, and indeed invite, the enacting of a 'gamer identity'.

Those coming to discourse analysis need to understand the wide range of meanings given to the term, the different methodological approaches to its conduct and the challenge of providing a trustworthy interpretation of text. It is now a mainstream concern of discourse analysis to go beyond the text, and the challenge here is to defend an interpretation of text and address questions such as: How do I know this was the intention of the producer of the text? How can I claim this is a reasonable interpretation of its effect?

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DOCUMENTARY RESEARCH

Documents may include, among other things: letters, annual reports, minutes of meetings, policy documents, correspondence, inspection reports, newsletters, bulletins, diaries, publicity leaflets, memoirs, oral histories, census data and so on. As such, documents may be held in a variety of formats, for example, printed text, photographs or other images, audio tapes, video and film. Increasingly, researchers will use the Internet to access documents as electronic images and they will also use a range of contemporary online data, for example, e-mail discussions, blogs and web sites of organisations. The use and analysis of documents might be the main focus of a piece of research, with the documents the subject of systematic research in their own right. This is, of course, the approach that is necessarily taken in many historical studies, as the 'actors' involved may be long dead. For example, Sarti's (2002) much cited study of home life in Europe from 1500 to 1800 is based on the imaginative interpretation of diaries, wills and contracts, architectural drawings, paintings and so on, as unearthed by the researcher herself or taken (with due acknowledgement) from secondary sources. In contrast, in contemporary research, the study of documents might be complementary to other methods of data collection.

The study of documents poses special problems of access but as important are questions of interpretation. These may cover:

- Authorship: Who wrote it? Is the author who they say they are? With what purpose in mind was the text produced? What was the author's position and likely 'bias'?
- Audience: Who was it written for? Why this audience? How was this audience imagined by the producer of the text?
- Production: Where was it produced and when? By whom? What were the social, political and cultural conditions in which it was produced? How is it presented, e.g. colour or black and white; highly illustrated?
- Content: In which genre can it be said to be written? How is the genre identifiable by the language? How do language functions such as informing, persuading, convincing and provoking convey the author's purpose? Can words, or units of meaning, be analysed quantitatively? What metaphors and analogies does the text contain?
- Context/frame of reference: When was it written? What came before it and after it? How does it relate to previous documents

and later ones? How typical or atypical is it? Whose views of events have not been recorded in documentary format?

Documentary research starts from the premise that no document should be accepted at face value; a document does not have a single 'objective' inner, essential meaning, it is open for interpretation. As Codd (1988) suggests in the context of policy documents in education, analysis of policy documents could be construed as 'a form of textual deconstruction'. One simple, but useful, distinction is between literal understanding and interpretive understanding of a text or document. The former involves the understanding of the literal or surface meaning of the words, terms and phrases – this might be called their denotation. The latter involves a deeper understanding and interpretation of the document – its connotation (e.g. Chandler, 2007).

Another perspective on interpretation, using a postmodernist frame of reference, is suggested by Usher and Edwards (1994). They suggest four aspects of documents which require interrogation:

- con-text: the author's own position;
- pre-text: that which exists before the text;
- sub-text: that which is beneath the text;
- inter-text: the relation of this text to other texts.

Documents have been treated too uncritically in some research, for example, diaries have been taken as a reliable rather than a subjective record of events. At the other end of the spectrum, some researchers, influenced by postmodernist ideas, see texts as lost in a nested, layer-upon-layer, web of interpretation.

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EMIC (AND ETIC)

The distinction between emic and etic is largely seen (e.g. Lett, 1996) as having derived from linguistic anthropology to indicate an insider

(emic) or an outsider (etic) perspective on human behaviour, activity or culture. The emic view looks at what is meaningful to members inside an organisation or participants within a field of social activity, and may well seek to give voice, directly or indirectly, to these insiders. Insiders should be able to 'see themselves' in a researcher's account and researchers need to negotiate carefully with participants, and go beyond surface 'member-checking' procedures, if they are going to produce such 'interconnected' accounts. In contrast, the etic perspective is the outsider view. Of course, there are a multitude of outsider views but for the researcher the most usual frame of reference is that of the research community and the concepts and categories that have been developed within a particular discipline to describe and explain social phenomena.

The work of the researcher need not be exclusively emic or etic (Berry, 1999). Researchers can write for different audiences and a single account may contain both emic and etic features. Rogoff (2003) uses a 'derived' etic approach in reporting on early childhood across cultures; this allows for cross-cultural comparison but is sensitive to context with interpretations of childhood adapted in the light of what the researcher learns *in situ*. Indeed, the etic may be, and frequently is, developed from emic accounts, though emic accounts may be valued in their own right (see **life history**).

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EPISTEMOLOGY

'Epistemology' refers to what we believe about how we come to know and understand the world. Social researchers have invariably presented a dichotomy of positivist and interpretive/anti-positivist epistemologies. **Positivism** suggests that social *scientists* should come to know the world by following the procedures established in natural science, while **interpretivism** sees social research as having a special concern for uncovering the meaning associated with social activity.

Epistemology is closely entwined with **ontology** – the claims about the nature of being and existence – in that it is difficult to imagine the world without imagining our claims to knowledge about the world. Hence, epistemology and ontology take, or should take, a place together at the top of a hierarchy when it comes to shaping a research project. In other words, our understanding of what knowledge is and how we acquire it defines the nature of the **questions** we might ask when carrying out research as well as the methodology and methods that we think will help us address these questions. For example, by taking a positivist stance, the researcher is led towards asking questions which seek out 'cause and effect' and to look for external factors to explain behaviour. The methodology followed in this kind of research is more likely to cover large-scale casing; deductive and experimental hypothesis testing. Positivists are more likely to adopt a quasi-scientific language and they will find terms such as **reliability**, **validity** and **bias** meaningful. In contrast, the researcher taking an interpretivist approach is more likely to look at internal motivation and the human agency that constitutes social activity and to look for internal factors in assessing cause and effect. Indeed, the interpretivist is more likely to ask why others see an association between different variables, rather than see demonstration of cause and effect as a realisable goal. Interpretivists may be as interested in the consequences of phenomena as they are in accounting for the phenomena in the first place, if not more so. Interpretivists are more likely to adopt ethnographic or small-scale case studies and will talk of **trustworthiness** and other quality criteria rather than validity and reliability. Epistemological considerations provide the logic of an enquiry, and without understanding that logic the research will be incoherent. For example, many researchers take an instinctive interpretivist or anti-positivist position but end up looking for causal explanations of events in tension with that position.

The dichotomy between positivism and interpretivism (Cohen *et al.*, 2007, are particularly clear here) is very important, but in practice the distinction between the two blurs around the edges. Much research within a positivist tradition is 'fuzzy' about interpreting cause and effect (see **generalisability**) and much interpretive research follows positivism in treating some concepts as objective categories in order to focus on other categories that are more problematic. Even within interpretivism, the process of deconstruction of concepts has to stop somewhere. As an example, we once supervised a student looking at the learner experience of using technology in education. After letting go of an initially essentialist or 'objective'

view of learning as a concept, he began to put *learning* in italics to show that it was capable of multiple interpretations. The following week, he came to the same conclusion as to the word *technology* and that too appeared in italics. The week after, the same occurred for the word *experience*. After a few months, most of the key terms in this thesis, if not the whole thesis, would have been italicised. This is not to criticise the student as he was simply following through a logic expressed most clearly in postmodernism, which sees language as nested within a maze of conflicting meaning and interpretation. However, if he wanted to report his work coherently (and he did), he had to start taking some concepts for granted. Much interpretive work is similarly compromised in its anti-positivist stance and de facto follows Searle (1995) in a belief that there are 'hard material facts' (the physical nature of the world we live in) as well as social facts (agreements about the objective nature of reality). This suggests that the positivist/anti-positivist dichotomy is not as deep as imagined and that it is not 'the only show in town'. Indeed, postmodernism offered a starkly different take on social research by critiquing the assumption that agreement can ever be reached as to the nature of physical and social reality. And critical theory, action research and feminist methodology all in different ways make a distinctive claim that, in order to understand the world, one must seek to change it.

Epistemological considerations need to be included not only in the conduct of the research but also in the conduct of the researcher. Many researchers take an espoused stance that knowledge is gained through collaborative social participation. However, in practice, the same researchers follow highly individual and independent research practices even when the logic of their epistemological positions should lead them to seek out feedback, to offer a voice within a community of scholars, to propose collaboration and peer review.

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ETHICS

Morals underpin ethics, but the two terms are not quite synonymous. An 'ethic' is a moral principle or a code of conduct that actually

governs what people do. It is concerned with the way people act or behave. The term 'ethics' usually refers to the moral principles guiding conduct, which are held by a group or even a profession (though there is no logical reason why individuals should not have their own ethical code). The conduct of research should be ethical not only in the particular sense that relevant procedures have been undertaken but also in spirit in the respect shown to others, the purpose of the research, who it benefits and how it is reported. Questions arise if:

- the design or planning of the research involves treating particular individuals or groups unfairly, for example, by using an experimental and a control group and unethically rewarding or mistreating one;
- the methods employed involve subterfuge, for example, by using covert terms of access or if consent is forced;
- the analysis (or manipulation) of the data ignores certain results or observations or selectively filters out qualitative data if they do not 'fit' a hypothesis;
- the presentation or reporting of the research is disrespectful, for example, revealing names or portraying a group of respondents using inflammatory language;
- the findings or conclusions of the research go beyond the data in order to reflect the researcher's own opinion and values.

Debates on codes of conduct governing research should be ongoing if they are to avoid some of the moral catastrophes of the past. In social research, the most troubling accounts of unethical behaviour often concern observer participation, for example, in ethnographic studies. An egregious case here concerns research of the Yąnomamö native people in the Amazon forest, and, while there are conflicting versions of what went on and who to hold responsible, ethnographers have been seen as disrupting traditional ways of life by introducing diseases, for which the Yąnomamö lacked resistance, and even engaging in criminality. However, ethical catastrophes are not confined to one type of study as further examples show. One case is Dennis and Dennis's study in the USA in 1941. They 'obtained' twin girls who they raised for over a year in order to investigate child development under conditions of 'minimum social stimulation' (Dennis, 1941). They concluded, as it happened, that lack of social interaction and stimulation had limited effect on the children – this may have been that the conditions were not as 'minimal' as may have been thought or because they had not focused on language development. A second example concerns an English psychologist, Burt, who

was widely seen as twisting, manipulating and even fraudulently misrepresenting his later data on hereditary and intelligence. A third example covers similar ground – Jensen's notorious study of 'race' and 'intelligence' (Jensen, 1973), in which it was concluded that black children had inherently lower intelligence than white children. Failure to look critically at the fundamental flaws in Jensen's methodology and inferences may have led to subsequent prejudice among many teachers and educators.

Ethical codes have changed over time. For example, Milgram's famous experiment on obedience in which subjects were encouraged to administer what they, wrongly, believed was an electric shock to an actor pretending to take part in a memory experiment caused some participants great distress (Milgram, 1963). Such research would not get ethical approval today but questions of deception and distress were rarely, if at all, commented on at the time. Indeed, the present climate in regard to both ethical approval and health and safety considerations make experimental and ethnographic approaches of the past increasingly difficult to carry out. Most, if not all, ethical approval committees today would struggle with quite mild and on the face of it harmless forms of deception, such as 'mystery shopper' techniques, which involve researchers approaching providers and pretending to be customers in order to understand the market. It is right that there are checks in place to stop researchers 'cutting ethical corners' as was once the case. However, it is startling when we live in a world of ever loosening ethical standards in the media, and a pushing of boundaries of taste and surveillance in electronic media, just how restrictive the norms for carrying out academic research have become.

Most, if not all, research is governed by professional association and institutional guidelines and these can be particularly helpful in understanding both legal and ethical requirements when working with young and/or vulnerable people. Perhaps the overriding rule is that honesty and openness should prevail in the relationship between researchers and those who participate in research. Nearly all researchers are very aware of ethical codes and procedures and follow them. However, they do struggle to understand their relevance when they see themselves as honest and trustworthy and the research as useful and worthwhile. Indeed, many social researchers fail to appreciate how spectacularly ethical guidelines can be breached. Often researchers can be quite frustrated by ethical codes – we can recall a researcher going to great lengths to get approval for filming a classroom for research purposes only to find that one child had left a

permission slip at home and the filming was called off. At other times, the codes themselves do not really describe how to deal with real-life dilemmas, for example, the desire to act on a respondent's reporting of bullying in the workplace, while maintaining confidentiality and anonymity.

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ETHNOGRAPHY

This is a term derived from the Greek words '*ethnos*' (people) and '*grapho*' (to write), so it literally means something like 'writing about people'. The activity of 'ethnography' has its origins in the discipline of anthropology; the aim of ethnography or an 'ethnographic approach' is for the researcher to enter the social world of the persons and groups being studied. While ethnography has been used in many contexts, such as workplace learning, product design and consumer marketing, it has a particular contribution to make to understanding lives which are not so often reported or understood, for example ethnographers have reported on how people deal with poverty, injustice, solvent abuse, chronic illness and so on. Ethnographers sometimes set out to provide insider or **emic** accounts, though this is not necessarily the case. The key research strategy employed in ethnographic studies is participant observation, but ethnographers are well placed to use a range of methods and to sense which are appropriate for the context in which they are studying. Ethnography might use varying degrees of participation from total immersion (when the researcher is a full participant) to a marginal position in which the researcher is a non-participant observer. Many studies fall in between these two clear-cut roles. For example, in a recent ethnographic study of the experience of overseas sojourners in UK higher education, Brown (2009) participates as a lecturer, teaching classes in English for academic purposes, but also observes activities which she herself had not organised and in which she did not have a clearly defined role.

An enduring point of reference for the discussion of ethnography is Mead's classic research on *Coming of Age in Samoa* – a nine-month

study of a village community on the island of Ta'u. The study was focused in particular on adolescent and near-adolescent girls living in three villages. Mead's (1943 [1928]) research involved her living and observing life in the community and conducting interviews, through an interpreter, of more than sixty girls and young women. The book covers the girls' expectations of family life; expressions of sexuality and close acquaintance with 'life' events, such as birth, miscarriage and Caesarean operations. Although conducted in the 1920s, the research raises many of the enduring general issues of ethnography. First, it shows the importance of striking a rapport with those being researched. This was made easier for Mead as she was herself a young woman – she was 23 at the time of the research – and she seemed able to adopt an open manner with her 'subjects'. Second, the credibility of the research has been debated – one critic claimed that, in effect, Mead had been taken in by her respondents whose accounts of their sexuality should be understood as a well-meant practical joke. This criticism has largely been rejected but the trustworthiness of the reporting was compromised by the comparatively short time she spent carrying out the research and the impressionistic nature of her data collection. Third, the study has further been questioned in relation to reflexivity and positionality: how far were Mead's observations informed by her own background and experiences and did this lead perhaps to a tendency to over-romanticise her 'subjects' and island life as a whole? Finally, Mead seemed to take it for granted that the book was for her North American home audience. This was well intentioned and explicit (she begins by asking, 'Are the disturbances which vex our adolescents due to the nature of adolescence itself or to the civilization?') and, as intended, her work succeeded in disturbing the prejudices of both a puritan lay readership and her psychoanalytical academic colleagues. Nonetheless, ethnographers nowadays will be more aware of the global audience for research and critique the glossing over of researcher **positionality**. Many researchers will seek a more collaborative relationship with their research participants. This will raise questions not only of the nature of the audience for their research but also of the nature of the knowledge produced.

Two key methodological challenges in carrying out ethnography are access to a research site and the researchers' impact on the research site. The former has become more complex by changing ethical procedures and standards. For example, in the past, researchers have sometimes used covert means of access (see **observation**) in ways which would not be acceptable today (see **ethics**). Covert research,

apart from its ethical difficulties, presents enormous practical problems and many researchers now seek to involve participants, to greater or lesser extents, as co-researchers in ethnographic studies.

As for influencing context, the 'observer effect' on the people or setting being studied is more important than in any other approach, as the researcher is aiming to gradually become accepted by the people or group being studied and therefore become party to insider knowledge, insights and conversations. The researcher's questions, body language, dress, observations, comments and indeed their very presence in a social situation will have an impact on their ability to do this and the researcher needs to carefully consider his or her influence on the setting and the people in it. On the one hand, the researcher needs to fit in; on the other, he or she needs to probe people's views, prejudices and taken-for-granted assumptions and 'bring out' the tacit and unspoken things that go on. As Delamont (1992) puts it, the researcher needs to 'make the familiar strange' – this will mean asking apparently naive questions, and often some fairly awkward ones, which will automatically set the researcher apart. The situation is magnified in 'asymmetrical contexts' – say, an adult researcher attempting an ethnography of teenagers or of people from markedly different social groups or people who have very different life styles. The researcher who tries too hard to merge into the group may be seen as patronising; in some cases, an attempt to do so might be met with suspicion, but more likely with derision. It might also lead the researcher into criminality as Pearson (2009) discusses in relation to carrying out research into football hooliganism. A tactic employed by many ethnographers in addressing these potential problems is to search out collaborators or key informants. The latter was famously the case for Whyte (1943) who drew extensively on a particular respondent given the name of 'Doc' in analysing street-corner society, a pioneering study of life among Italian-Americans in a disadvantaged neighbourhood in Boston, USA, in the late 1930s. It is not, however, always practical to gain access to key informants and this strategy will be ethically questionable if it puts collaborators at risk.

The goals of ethnography are not straightforward. Ethnographers have been criticised for providing overly descriptive, factual accounts. However, this more descriptive approach is justified if the context is an unfamiliar one or the ethnographer is presenting voices which have not previously been heard. On the other hand, more explicitly **etic** accounts have been criticised as being too removed from those whose lives it purports to illuminate and to miss the engaging narrative flow of classic ethnography. Similar tensions have been expressed

in relation to positionality. There is a strong colonial tradition in classic anthropology and some accounts today are heavily criticised for adopting a culturally dominant view based on the interests and frameworks of western liberal elites. However, on the other hand, ethnographers are also criticised for adopting an uncritical cultural relativism.

Researchers beginning ethnography need to understand the traditions of the field and the challenges of gaining access, of positionality, of methodology and the changing ethical landscape outlined above. They should also be aware that ethnography has been stretched as a concept to include what are perhaps better seen as in-depth case studies. For example, several studies of home use of technology have been conducted, which consist very largely of self-reporting, through diary keeping and mapping of environments using moving and still cameras, supplemented by in-depth interviews and filming (see Obrist *et al*., 2008). This represents a much lighter type of researcher participation than in classic ethnography but can be seen as drawing on the legacy of those earlier studies.

As a footnote to this main entry, auto-ethnography, which once meant a study of 'one's own people', has been incorporated in many studies to signal a concern for weaving a study of self with the object of study. This too is a feature of classic ethnographic accounts. For example, Geertz introduces himself to the reader and his role and status in a particular village before giving his thick **description** of the significance of cock fighting in a village in Bali. In extremis, auto-ethnography puts the researcher centre stage as both object and subject of the research. For example, an account of the 'embodiment of academic participation' by Sparkes (2007) might fit this definition by presenting a narrative on the challenges of working in a university department.

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EVALUATION RESEARCH

Evaluation research is the systematic assessment or investigation of the worth, merit or value of an innovation, an initiative, a policy or a programme. A useful distinction is often made between *formative* and *summative* evaluation. Formative evaluation seeks to provide the evidence that can help improve the delivery of a programme, and takes place while changes can still be made. Summative evaluation, in contrast, is carried out at the end of a programme or intervention generally to assess its impact as measured against initial performance indicators and/or more general measures of effectiveness. Both formative and summative evaluation may use a mix of methods, though formative evaluation tends to be more flexible.

Evaluation research can have many purposes: informing decisions, improving action, illumination and understanding, promoting 'better' practice. It tends to be differentiated from academic research by its concern for a particular context and tends to have a pragmatic approach to research methods and methodology. However, some academic reporting is indistinguishable from evaluation research and evaluation research is frequently 'scholarly', if not self-consciously, 'academic'. In a sense, all research is evaluative, as it inevitably involves values and implications for practice.

There are different types and models of evaluation. For example, 'democratic' or 'participative' approaches usually involve participants in a full and active way in the design, conduct and even the dissemination of the evaluation. There are many reported examples of this, often involving action research and participative design, in the areas of environmental planning, professional development and technological application. For example, von Bertrab and Zambrano (2010) describe a wetlands project involving local groups, ecologists and representatives of local government in Mexico City. Here it was important to involve 'fisher' groups in the planning and evaluation of the project in order to address their fears over its impact on their livelihoods. The project in this example was able to evolve to meet the needs of not just the fishing community but also other stakeholders and thus had a higher chance of becoming sustainable. Often

participative processes such as this will have a further educative value for those taking part. However, participative processes can be time consuming and require patient negotiation of different interests; at times these interests may be irreconcilable.

Participative evaluation tends to be 'immanent' in the sense that it is judged on its own terms. It might ask: How does this innovation compare to what has gone previously? What might have happened if other decisions were taken? How does this outcome measure up to an ideal state of affairs? A difficulty with the participative approach is that it makes it difficult to generalise across contexts with different measures of impact, though generalisation may not be a concern for the evaluators or the sponsors. Less participative models of evaluation are often judged against external criteria, typically those provided by a funder or project designer. Again, as one of very many examples, Kärnä *et al.* (2011) evaluate the effectiveness of an anti-bullying programme using a large sample of school children aged ten to twelve years. Schools were randomly assigned to intervention and control conditions with the main source of evaluation being children's reported experiences of bullying, and attitudes to bullying, using questionnaires adapted for the programme by the project team. Findings suggested that the programme had been successful in that children following the programme reported lower school bullying and victimisation. This is an example of an **experimental method** used to evaluate a programme, a strategy deliberately chosen by the project leaders in order to 'illustrate effectiveness'.

Finally, a distinction was made by Finch (1986) between the 'engineering model' of evaluation and the 'enlightenment model' – this distinction is still valuable in today's social research context. The former is linked totally to action, problem solving and change (hopefully improvement); while the aim of the latter is to bring about understanding, illumination and enlightenment. Such a distinction should be seen as labelling two poles of a continuum, rather than presenting a sharp dichotomy, i.e. all evaluations will have an 'illuminative' aspect and all evaluations will be linked to some action or other even if other factors will be taken into account. Of course, in practice, many evaluations do not lead to clear conclusions and a recurring example has been early intervention to support very young children. Initiatives have often involved a high investment of political prestige and consequent pressure to show 'what works', yet results are almost inevitably difficult to interpret as they involve a complex array of factors and a very long time scale. Interventions are also subject to rapid changes of political direction as seen in 'Head Start' programmes

in the USA and other countries, a recent example being the Sure Start programme in the UK (Belsky *et al.*, 2007).

It hardly needs adding that there will always be a political and economic dimension to evaluation, especially as projects and interventions are funded and sponsored by private or public bodies. Dissemination and reporting of evaluation research is sensitive. Evaluation research involves numerous stakeholders for whom the outcome and presentation of the evaluation may have far-reaching effects – possibly involving prestige, status, salary or even employment. A careful consideration of **ethics** is therefore important, though rarely straightforward. For example, most evaluators will resist distortion and manipulation of evidence but learn to tolerate compromise in the wording used to slant the findings. Readers of evaluation research learn to 'read between the lines'. For example, an unwelcome finding may be qualified as having been observed in a 'small-scale strand of the evaluation'; if early results showed little impact, this may be put down to 'teething problems in implementation', even if the innovation was quite well explained and supported.

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EVIDENCE-BASED PRACTICE

Evidence-based practice carries different meanings but generally refers to the attempt to base professional interventions on a systematic review of existing research. Evidence-based practice, then, generally begins with a 'research synthesis' or review of literature carefully designed to evaluate and bring together a range of studies on a certain area. This synthesis may be a form of 'meta-analysis', i.e. in which findings from across a range of studies are aggregated, or a more general systematic review (for examples of each, see **literature review**).

The term evidence-based practice seems to have started in medicine and moved on to related fields such as health care, nursing,

physiotherapy, speech therapy and then on to education. Indeed, evidence-based practice was increasingly referred to by policy makers at the end of the twentieth century and is still widely held as the ideal standard for improving practice and policy. Evidence-based practice implies reasoned and appropriate decision making rather than relying on intuition, anecdote and past experience. It is difficult to argue against the idea of using evidence to inform policy and practice but its application is contested for several reasons:

- Researchers generally set out clear criteria for selecting literature to review but this is more problematic than it first appears. These criteria are often biased towards **experimental** trials and quantitative large-scale studies, even if there are objections to this kind of study in the first place. There are further doubts whether it is possible to **generalise** from one context to another in the way that systematic review sets out to do. Evidence-based practice may end up as a rather forced mechanical exercise focused on superficial causal associations (what works) rather than explanation (why it works).
- In most fields involving policy and practice, the discussion of the ends or the aims of the policy/practice are usually more important and more problematic than the means, although both are contentious. Effectiveness always includes the question 'effective for what end?'. This is particularly the case for policy makers for whom evidence-based practice might be a term to camouflage personal or political interest and selective attention to the evidence (Hammersley, 2001). Appealing to evidence-based practice might be an attempt to close down discussion and debate about policy and rule out other quite reasonable ways of reading the evidence.
- Most practitioners are eclectic and pragmatic in their practice and draw on a sense of personal knowledge (Eraut, 1998) in which personal values, professional 'know-how' and academic propositions about practice are intricately entwined. They often reject the findings of evidence-based practice as oversimplified representations of reality and not applying to the particular contexts in which they work. This may be frustrating for researchers and ill judged for practice but it is often a justifiable rejection of top-down application of policy and shows a persistent sensitivity to local conditions.

Evidence-based practice may be helpful as a term in drawing attention to the importance of accessing relevant evidence and can be used much more flexibly than many policy makers would suggest. For

example, Chorpita *et al.* (2005) discuss how evidence of practice in the field of mental health might be matched towards particular client groups and this provides a helpful distillation of literature. In many contexts, the term 'evidence-based practice' can be replaced by meta-analysis or systematic review, while 'evidence-informed' or 'evidence-aware' might be more suitable terms to describe the desired relationship between research literature and practice.

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EXPERIMENTAL METHOD

The experimental or the 'scientific' method seeks to investigate, in a controlled context, the impact of one variable on another as measured by observable outcomes. Normally, the experimental method is used for testing hypotheses derived from literature review and/or an appropriate conceptual framework. For example, in the field of educational technology, researchers might consider the impact of multimedia on information recall and start with a hypothesis that the group with access to multimedia texts will outperform those lacking access. Procedurally, the experimental method will involve an experimental group or groups (in the above example, those who get the multimedia 'treatment') and a control group (those who do not). Researchers will seek to provide valid 'operational definitions' and reliable testing. This is more challenging to achieve than often appears, for example, there is no 'neutral' testing of the impact of multimedia; the experiment will be biased towards or against contexts in which images assist recall.

There are many variations within the experimental method. There is no reason to limit testing to one experimental group, for example, information recall could be investigated across three groups: one with access to written text; one with access to text and still images; a third with access to text, image and sound. And rather than setting up experimental and control groups, the same group could be tested

under two or more experimental conditions, say, first with multimedia support and the second time without. This would, of course, have to be considered carefully to address the effects of 'crossover' – greater competence in completing a task simply because it is being repeated.

Findings from experimental studies generally involve tests of statistical association but simple descriptive statistics, such as comparison of mean/modal/median performances under the conditions being tested, may stand alone. There are, of course, thousands of reported experimental studies particularly in the fields of manufacturing, software design, market research, memory and learning, and in **evaluation** studies in general. As one example, several studies have looked at the 'distractive potential' of using a mobile phone when driving. In one case, Beede and Kass (2006) had subjects in the USA tackle simulated driving scenarios both with, and without, hands-free phone distraction. It was found that under these conditions driving performance was significantly affected when taking part in a simulated phone conversation. This study, like many others, took place in a laboratory setting but experimental work can also take place in natural settings, though this might be better considered as quasi-experimental, as researchers have limited control over their interventions. As an example, Kim and White (2008), in a study of the impact of different early reading interventions in the USA, randomly assigned children (n = 400) to one of four groups: a control group; a group with access to books only; a group with access to books with oral reading support or 'scaffolding'; and a fourth with access to books with oral reading and comprehension scaffolding. Children were pre- and post-tested and the experimental groups outperformed the control group, and the groups whose reading was 'scaffolded' performed better than the two without. Going further, large-scale 'casing' (see **case study**) and systematic reviews might be considered by some as 'post facto experimental studies', as they are seeking to isolate the impact of particular factors on outcomes.

The value of the experimental method is that it tells us in a very common-sensical and accessible way 'what works'. For example, if the findings in the above studies on driving and reading were replicated, they would help policy makers and practitioners make sensible, informed decisions about, say, whether to make it an offence to use a mobile phone at all while driving or what kind of reading intervention should be adopted by teachers. However, all is not as straightforward as it appears and experimental method research is challenged on several grounds:

- In some reported experimental method research, group sizes are often small so that random differences between the two groups are not ironed out. To get round this, most small studies create quota samples with participants in the control and experimental groups matched to, say, similar gender, educational background and other relevant criteria. However, this is rough and ready as an approach and unpredictable selection bias can be expected to operate. The genuinely randomised and controlled trial (RCT for short) is said by some authors (see Torgerson and Torgerson, 2003) to be the 'gold standard'. To meet this 'standard', the two groups would have to be selected by a genuinely randomised mechanism, such as a random number generator. In practice, it is often difficult to determine whether a study is truly an RCT or not and most empirical research for reasons of scale is unlikely to be able to create large-scale RCTs.
- Experimental trials are unreliable predictors of future behaviour as the 'treatment' may have a novelty effect. Here the Hawthorne effect is often cited. This was derived from a 1924 study of productivity at a factory in Chicago in which two carefully matched groups (experimental and control) were isolated from other factory workers. Working conditions of the experimental group were varied, e.g. levels of illumination, humidity, temperature and duration and placing of rest periods. No matter which changes were made, including negative ones, such as reduced illumination or shorter rest periods, productivity showed an upward trend. Just as surprisingly, although no changes were made to the conditions of the control group, their output increased steadily. In effect, taking part in a trial is enough in itself to alter performance usually for the better. In contrast to the Hawthorne effect, in some cases, taking part in a trial may hinder performance as subjects need time to adapt to new conditions or new practices; this is often said to be the case for the introduction of technology into learning where only with adequate time and support may any effect be expected. Of course, researchers can think carefully about the timing of testing but there is a danger of rushing an 'experiment' and attempting to report an effect or an impact when there really is none, or failing to find an effect when this is a case of 'not yet'.
- Experimental studies often concentrate on what works rather than how it works. This increases the likelihood of misreading cause and effect and of being misled by 'spurious' correlations between intervention and outputs (see **causality**).

- Social science cannot replicate medical trials for which randomised double blind testing (in which neither the researcher nor the subject knows if they are in the treatment or control group) of new products is the gold standard. In social research, treatments do not work 'on' the subject, the subject has to interpret the treatment in some way for themselves. Furthermore, control conditions are not 'inert' placebos but a context in which an alternative, rather than no, intervention is happening. Experimental studies may hence be reporting the quality of the intervention, the engagement or otherwise of the subject and the shortcomings of the alternatives rather than whether the treatment is 'working'.
- Rather than providing evidence of what works, experimental studies are likely to be ignored by practitioners because they are seen as lacking ecological validity. Interventions within laboratory or other test conditions are not easily relatable as they have abstracted out the 'messiness of the real world': a simulated driving exercise is not the same as driving in real life, teaching in laboratory conditions does not replicate the classroom. Furthermore, many experimental studies are, for obvious reasons of access, undertaken among students and they are unlikely to be representative of the wider population. Studies which take place in natural settings, in contrast, may be seen as more relatable but may be undermined by factors outside the control of the researcher. For example, an experimental study comparing different types of intervention in prisoner education within the everyday context of prison life may be undermined by an unexpected issue of, say, increased prisoner overcrowding among one or more of the experimental groups. As a rule, the more natural the setting, the more relatable it is, but the more the integrity of the control and experimental groups is threatened.
- Social, educational and medical interventions can be accused of being unethical if they treat one group more favourably than another. This has been raised, for example, in the experimental testing of educational initiatives which have given experimental groups enhanced access to ICT, payments for continuing education, or greater funding for their schools. There are further **ethical** issues in experimental testing if the real purpose of the experiment is concealed from the subjects in order to protect the methodological rigour of the exercise.

In our experience researchers tend to fall into two groups – a small group who maintain faith in the unquestioned validity and reliability of experimental studies and a much larger group that reject the

experimental method as a **positivist** hangover. Our own view is that the experimental method is not a gold standard for research but experiments may provide useful data for researchers in appropriate contexts and comparison between groups may suggest, rather than prove, an impact. Comparisons between groups should not be lauded or rejected in principle. Rather, with a more flexible attitude to experimental research, researchers may become less fixated on testing and performance and engage with a wider range of indicators of impact (for example, participant feedback within interviews and focus groups). Stripped of the demand to prove impact, experimental researchers may find more to say about the wide range of interventions that do not result in statistically significant gains but nonetheless are interesting in their own right. An example here is Pettijohn and Ahmed (2010) who compare the impact of individual against collaborative songwriting in an article in the aptly named *Journal of Articles in Support of the Null Hypothesis*.

Finally, a distinction needs to be maintained between experimental method and 'experiments'. The latter may cover many types of 'design interventions' and action research projects, which the practitioner researcher, in particular, may undertake. Experiments may be evaluated through experimental method comparison, but this is not necessarily – or, indeed, often – the case.

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EXPLANATION

An explanation offers a reason why something has happened and is often contrasted with a **description** (an account of what happened), though the distinction is a matter of degree, not kind. While there are different types of explanation, and a dispute as to whether rational

explanation is possible (see **postmodernism**), the distinction between **positivist** and **interpretivist** explanation is widely made. A positivist explanation is more likely to be confident in identifying cause and effect, may well use statistical testing of some kind, and see validity and reliability as 'warrants' of its quality. It is 'nomothetic' in that it is seeking to generalise about factors influencing the behaviour of groups and often focuses on external explanation for events. An interpretivist explanation, on the other hand, is more 'ideographic', being concerned with uncovering the meaning of a phenomenon for those taking part and the consequences of their behaviour. Causality is treated with caution within interpretive approaches, as researchers often seek to make activity comprehensible, rather than to show cause and effect.

Both positivist and interpretive types of explanation are valuable in that human beings are both the object and subject of research; the factors which explain a phenomenon operate on an individual but are sustained or constructed by the individual him- or herself. For example, to take a topic of enduring historical significance in the history of social research, two research articles report on suicide among indigenous populations. Beautrais and Fergusson (2006), through analysis of quantitative data, find that rates of suicide are higher among young Maori males and females in New Zealand than among their non-Maori peers and that suicide is virtually unknown among older Maori. They use factors such as economic disadvantage and disruption of cultural identity to offer an explanation for suicide, factors which are largely external to the young people involved. In contrast, Niezen (2009), in reporting on clusters of suicide among young people in aboriginal communities in Canada, comes up with more of an internal explanation of suicide drawn from first-hand experience of local communities. In particular, it is suggested that, when other avenues for cultural identity have been blocked, a group identity can be formed around the 'will to die'. Rather than looking at factors which operate on the individuals or groups, the study is looking at what makes suicide comprehensible as an act and the cultural practices built around it. Both researchers are concerned with marshalling of quantitative data and both are interested in culture and the ways in which culture is interpreted, but Beautrais and Fergusson (2006) foreground the factors that explain suicide and Niezen (2009) the meaning of suicide. Neither, it can be added, is right or wrong; each offers a different lens to explain a phenomenon. Hence, the types of explanations offered in research arise out of the logic of a research project and the questions asked in that project.

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FEMINIST METHODOLOGY

Feminism as a social and political movement is concerned with establishing and defending the political, economic and social rights of women. Feminists have consistently challenged a range of hitherto taken-for-granted institutional and social practices, which they see as biased or skewed in favour of men. Feminist movements have, for example, campaigned for the right to vote, to own property, to have redress in cases of physical abuse within marriage and for the rights of girls to have access to education, not to be coerced into female circumcision and not to be coerced into marriage. Feminism, however, looks beyond the legal to consider and critique the social cultural factors that have held women back from taking a full and equal part in society's institutions, for example, by challenging under-representation of women in government, legal institutions and the so-called 'glass ceiling' in the professions. This critique extends, of course, to academic institutions and, not surprisingly, feminists have drawn attention to skewed representation both in the makeup of academic institutions and in published output: for many feminists, academic research has typically been written by men and for men with inequality between genders something to be taken for granted.

Gender is, arguably, no longer of marginal concern in academia and, as a matter of routine, many – though by no means all – academics are sensitised to the issues thrown up by gender inequality and consider gender a 'variable' in their research. Many mainstream researchers, both male and female, who would not necessarily identify themselves as feminist, have contributed to documenting the experiences of women as professionals, as mothers, as providers for families, and in some notable cases to exposing the extent and consequences of oppression. Such research is of interest and concern to feminist researchers but feminist methodology is not confined to an interest in gender: rather, it is often argued that there is a distinctive feminist

methodology and something profoundly different in the way men and women carry out research. In particular, feminist methodology sees inequalities between men and women as the most fundamental divide in society, which feminist research should address by exposing the marginalisation of women wherever it occurs, by explaining how oppressive practices have become normalised and by giving voice to those who have challenged constraints and oppression. This provides feminist research with a particular concern for ethics and a commitment to addressing inequality in the design of the research, how it is carried out and the use made of it. This is often manifested in a concern for the relationship between researchers and researched and a commitment to change.

Just as feminism is alert to asymmetrical power relationships between men and women, feminist methodology has a special interest in the relationship between researcher and the research (e.g. Harding, 1987). Feminist researchers want to do things differently and they frequently seek to enlist those who are being researched as participants or collaborators in the research (see Morrow, 2006, in **collaborative research**). Indeed, this is not just an ethical position but also an epistemological one, and 'standpoint' feminist methodology argues that research that starts from examining women's lives will present a less distorted view of the social world (Harding, 2004). Feminist research has a particular concern for the interconnectedness – very broadly, the degree to which research outputs are recognisable to participants – and sees research as a negotiation of meaning with participants. In doing so, feminist researchers argue that, as women researching women, they have a shared insider understanding of the experiences of those they are researching even if, at the same time, there are ways in which their position as researchers may give them asymmetrical access to resources and social capital. To address this, feminist research seeks to make positionality transparent and typically engages in reflexive exploration of both ethical and epistemological issues (see Huisman, 2008, as an example).

Feminist researchers want not only to understand the inequality between men and women but also to change it; they want to use their research to serve the interests of women. This commitment is capable of broad interpretation but one way in which it can be demonstrated is in taking care to identify issues which have a particular concern for women and have been generated by women themselves. Research should have both general utility in highlighting inequality and a particular value for the participants of the research: through collaborative activity, the research should have some impact on those

involved, for example, in generating feeling of greater agency and self-efficacy, if not empowerment (Cook and Fonow, 1986).

Feminist research does not include or preclude particular research strategies, but, in practice, it has been associated with broadly 'qualitative' methods such as interviews, participant observation, focus groups and so on. While by no means unique in the methods it uses, feminist research is distinctive in the way that methods are used. For example, an interview may be reinterpreted as a negotiation of meaning rather than an attempt to capture an impersonal truth, and feminist interviews will seek to establish non-hierarchical and more natural relationships with participants (as an example, see Oakley's research into motherhood (Oakley, 1979) in **interviewing**).

Those undertaking feminist research need to carry out their work in an environment in which the concerns of feminism and feminist methodology are understood and supported. Feminist researchers need to be aware of tensions within their methodology and indeed within feminism itself: for example, a key question is the extent to which gender should be considered *the* rather than *a* primary distinction in human experience standing above, say, ethnicity and class. Researchers should be aware of the shifts in feminist thinking over time. They will need to back up claims made for the collaborative and the empowering nature of their research and appreciate that these claims are often treated sceptically (see **collaborative research**). Feminist researchers need to balance **emic** and **etic** reporting and constantly revisit the criteria used for judging the quality or **trustworthiness** of an account. Finally, they need to address the ever present, though now rather stale, question as to whether feminism is, in fact, a distinctive methodology (see Ramazanoglu and Holland, 2002), given that some of its methodological concerns are shared by other researchers taking an anti-positivism approach and that a commitment to action is shared within participatory action research in general.

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GAME THEORY

Game theory is based on examining what subjects would do in hypothetical situations if they were following rational decision-making strategies; it asks what kinds of choices they would settle on if they looked for the best consequences given the alternatives available. The classic account of game theory is the prisoner dilemma:

Two suspects (A and B) are taken into custody and separated. They are believed to be guilty of a crime but there is not the evidence to convict them. Each prisoner has two choices: to confess or not to confess. If they both hold out, they will only be charged with a minor crime as there is not the evidence to convict them of the major crime; if they both confess, they will be charged with the major crime but given less severe sentences in view of their confession. However, if prisoner A confesses and B does not, or vice versa, then A will receive a minor sentence but B will get the severe sentence. In deciding on a strategy, the suspect has to balance the risk of not confessing (he or she might 'cop for' the severe sentence) against the opportunity of getting a very light sentence by confessing. The game has often been played out to explore the concept of trust and there is some suggestion here that it helps explain the basis for cooperative behaviour.

Game theory is often seen as having its roots in the work of von Neumann and Morgenstein, which looked at economic decision making, but, casting the net wider, game theory has strong roots in mathematics (see Chwaszcza, 2008). Game theory has gone on to be used in many fields including marketing and market analyses, voting and party representations, and it has a general application in psychology, biology and neuroscience. A controversial application of game theory involved mutual destruction scenarios using nuclear weapons.

Game theory can be easily dismissed as lacking 'ecological validity', i.e. in real life, humans do not act 'rationally' and actors may behave very differently when faced with the prospect of a life sentence for a crime that they did not commit or, for that matter, political leaders may behave emotionally when faced with nuclear destruction 'for

real'. However, this may miss the point: game theory can expose the lack of rationality in actions by comparing 'reality' to the rational model, it can throw light on the process of negotiation in social situations and, not least, the researcher may learn more by constructing the model than in actually using it. Researchers wishing to engage with game theory need to be confident of working within a heavily mathematical tradition, to be aware of its several variants and to take a critical stance to the assumption of rational behaviour made within it.

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GENERALISABILITY

Generalisability usually refers to the feasibility of using an insight developed in one context and applying it in another. Often generalisability is discussed in relation to the laws of natural science, which predict the consequence of one action or one variable on another (for example, the impact of heat on water), which are applicable anywhere and at any time. Indeed, the discovery of predictable general laws has been the great achievement of natural science and it is noticeable that, in contrast, social researchers seem unable to reach predictable generalisations as to such basic social questions as: What is the likely impact of using method X to teach reading? What is the impact of early-intervention programmes on poverty? What is the best way of tackling rates of reoffending? Indeed the attempts to develop generalisable findings, most explicitly undertaken within **evidence-based practice** and using **experimental methods**, have fallen short for several reasons: social contexts are too complex to reduce to a limited list of variables; studies cannot be replicated in the same way as in natural science; and social research must somehow deal with human agency.

While there is near-universal agreement that there are no absolute laws that can be uncovered about the social world, there is less agreement on the extent to which generalisations can be offered. Some argue that, on the basis of looking at consistency and contrast across studies, probabilistic statements can be made, i.e. by doing X and avoiding Y, it is likely that some benefit will accrue. Those

supporting this kind of probabilistic prediction are comforted by its acceptance, and obvious value, in some branches of physics – for example, quantum physics and meteorology (for example, prediction of likely weather patterns). Bassey (2001) loosens the concept of probabilistic prediction further by suggesting there are 'fuzzy' generalisations to be made in social research, i.e. by taking a particular action, a certain outcome 'might' happen. This appears eminently commonsensical even if the epistemological basis for such generalisation is not clear.

The easy stance regarding generalisation is to dismiss it as a hangover of **positivism** and to pour scorn on attempts to generalise. However, even those conducting context-rich, small-scale research can be asked to consider the concept of generalisation more fully, for, even if the researcher is not concerned with generalising, those reading the research are. Indeed, readers are rarely interested in all the particulars that the researcher has painstakingly supplied and will have limited emotional attachment to the 'subjects' involved, but they will want to know how this one study can be compared to others. It is quite reasonable to ask researchers to offer this kind of comparison even if pointing out the difficulties which this throws up.

A second reason to engage with generalisation is that researchers are necessarily refashioning and reworking concepts from other contexts themselves, even if they sometimes do this unknowingly or at least do not make the transfer explicit. To give one example: the idea of strategic compliance resurfaces in many contexts, such as professional development, teaching and learning in higher education, organisational management, ethical and legal practice, communication studies and law. Of course, the term is used in different ways and with different connotations. For Goffman, whose work on asylums is a seminal reference point, strategic compliance appears as an internal adjustment (Rawls, 1987), whereas, in more common usage, strategic compliance is a structural adjustment created by the impossibility of meeting all the demands made on a person or organisation. For some, strategic compliance becomes 'cynical'; for others, it is a rational coping strategy. Tracing a concept such as strategic compliance across disciplines is potentially valuable as it hints at something generalisable in the way human beings have been reported as behaving, even if we should be cautious or 'parsimonious' in extending the concept to new contexts without any direct research evidence. Furthermore, we should maintain an awareness of the ambiguities in its use. Generalisation need not result in a 'one size fits all' characterisation of social activity. As an example, in a multiple case study on primary

school leadership, Webb (2005) is able to generalise three different patterns of school leadership and to offer an explanation as to the structural constraints in which these patterns come about.

A weakened form of generalisability is that of relatability and this may help in explaining the contribution of case study and of more interpretive approaches to social research. A study becomes relatable when there is enough background detail, appropriately presented, to enable the practitioner and/or fellow researcher to recognise a case as similar to their own. A study that is relatable does not 'tell' the practitioner how to behave but helps him or her assess the likely consequences of choosing to follow the actions reported in that study. The researcher, through detailed description and skilful reporting, may increase the relatability of a study but much needs to be assessed and judged by the reader, given his or her experience, knowledge and wisdom. But this has one important caveat, as Roberts (1996: 147) points out: 'As with any research, the reader has to rely on the integrity of the researcher to select and present the evidence fairly.' Relatability implies there is enough that is common between contexts to make some generalisation worthwhile but enough that is different to make any generalisation a task for imaginative interpretation.

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GROUNDED THEORY

Grounded theory is an approach to research which prioritises **inductive** methods of theory generation over **deductive** ones: it is *grounded* in that the job of classifying and interpreting data begins with the data, and not a handed-down conceptual framework, and it is *theoretical* in that it seeks to clarify, and at times model, the relationships between the categories which have been generated to describe the data. Grounded theory is associated with Glaser and Strauss (1967) who developed their approach in clearly stated opposition to the

'hypothetico-deductive' method (see **deduction**), which they saw as the prevailing social science orthodoxy of the day.

If the process of interpreting data begins with the researcher, how can such an approach be considered reliable or trustworthy? Central to the approach is the close examination of field notes and other data and their consequent organisation, first, around descriptive codes, and, then, around more abstract categories (Bowen, 2008, is presented as an example in **coding**). Key terms in grounded theory include saturation (the point at which continued exploration of a category does not yield any further insight) and axial coding, in which the relationship of categories to each other is explored in a systematic way. Rigour within grounded theory is achieved through the method of constant comparison, in which the researcher considers all the instances in which a category has been applied in order to better define its properties and limit its application. Indeed, the grounded theorist does not seek out incremental accumulation of data but purposively samples data in order to confirm or modify categorisations. This is sometimes referred to as abduction, rather than induction, in order to stress that the research is both generating and testing hypotheses. Grounded theory is substantive in that it is limited to an examination of a particular context, but it might give rise to more formal theory were the same phenomena observed across different contexts.

Grounded theory has been applied in hundreds, if not thousands, of studies, in particular in health care, education, social work and management. A collection of papers edited by Strauss and Corbin (1997) includes studies on: the experience of chronic pain; the practice of cancer research; recruiting by headhunting companies; dialogues in abusive relationships; and characterisations of Japanese society. Grounded theory has the considerable advantage of offering a sustained critique of top-down deductive approaches in which data is forced into pre-existing categories; as many researchers fail to acknowledge when it comes to deductive analysis, 'if you look for it, you will find it'. However, this poses a methodological difficulty as the grounded theorist, just as any other researcher, is inevitably making 'theory-laden' observations from the start of a research project even if this is not made fully explicit. For example, Strauss and Corbin provide a much quoted description of waiting for your dinner at a restaurant:

> You notice a lady in red. She appears to be just standing there in the kitchen, but your common sense tells you that a restaurant

> wouldn't pay a lady in red just to stand there, especially in a busy kitchen. Your curiosity is piqued, so you decide to do an inductive analysis to see if you can determine just what her job is. (Once a grounded theorist, always a grounded theorist.)
>
> You notice that she is intently looking around the kitchen area, a **work site**, focusing here and then there, taking a mental note of what is going on. *You ask yourself, what is she doing here? Then you label it* watching. Watching what? **Kitchen work**.
>
> Next, someone comes up and asks her a question. She answers. This act is different than watching, *so you code it* as **information passing**.
>
> She seems to notice everything. You call this **attentiveness**.
>
> Our lady in red walks up to someone and tells him something. Since this incident also involves information that is passed on, you also label it, information passing. Although standing in the midst of all this activity, she doesn't seem to disrupt it. *To describe this phenomenon* you use the term **unintrusiveness**.
>
> She turns and walks quickly and quietly, **efficiently**, into the dining area, and proceeds to **watch** the activity here also. She seems to be keeping track of everyone and everything, **monitoring**. But monitoring what? Being an astute observer, you notice that she is monitoring the **quality** of the service, how the waiter interacts and responds to the customer; the timing of service, how much transpires between seating a customer, their ordering, the delivery of food; and **customer response and satisfaction** with the service.
>
> (Strauss and Corbin, 1990: 64)

This very clearly illustrates the kind of open-mindedness and attention to detail that characterises the work of grounded theory, and of more inductive approaches to research in general. However, observation is not operating here without a theory. Our hungry grounded theorist is gaining new insight into a particular kind of social activity but making observations which are filtered through a pre-existing frame of reference. For example, none of these observations would be comprehensible without a concept of money exchange, division of labour and the social function of dining out. In other words, grounded theorists, just like any other researchers, do not begin their research as if staring at a blank page; they have a **position** and too much is sometimes claimed for the 'objectivity' of grounded theory.

Nonetheless, grounded theory has a great deal of appeal. Glaser and Strauss (1967) and Strauss and Corbin (1990) provide exceptionally lucid accounts of the research process, and both books might, and often are, read as guides to coding and categorising per se, irrespective of an interest in grounded theory. Above all, grounded theory offers a view of social research as a creative process: grounded theory researchers have the courage to generate and test hypotheses for themselves; they are not 'foot soldiers' for formal theories created by someone else. In describing its procedures as rigorous, grounded theory seems to address the objections of all but the most unreconstructed positivist. There are, however, further tensions to address if adopting grounded theory:

- Grounded theory researchers are often asked whether they are following the original or 'classical' version offered by Glaser and Strauss (1967) or the version offered by Strauss and Corbin (1990). To the 'lay' reader, there is a strong overlap between these books, but Strauss and Corbin (1990) have reframed grounded theory as 'qualitative enquiry', whereas Glaser and Strauss (1967) spread their net wider, arguing for constant comparison of different types of data, including documents, literature and statistics and interviews. In the earlier conception of grounded theory, 'all is data'.
- There is some dispute as to the nature of the 'theory' produced in grounded theory. For example, in their own ground-breaking study of dying patients, Glaser and Strauss (1964) offer 'social loss' as a theoretical contribution to understanding patient dying. (Social loss considers the way in which the future life potential of the dying patient is calculated and is more likely to be higher among the young and better off, and lower among the old and poor. Those with higher social loss were cared for better by nurses, and those with lower social loss were often cared for in a perfunctory manner with little sense of personal engagement.) Their theory of social loss abstracts what is common across a range of data, and names, describes and considers the consequences of a phenomenon, which otherwise may remain hidden, for the actors involved (Glaser, 2002a). Theory means something different from the search for causality. However, later, Strauss and Corbin (1990) do offer a template for examining the explicit modelling of a phenomenon through identifying causal, intervening and contextual factors, as well as the strategies used by actors. This is a substantially different approach to Glaser and Strauss (1967) and leaves uncertainty as to what theorisation means.

- Some of the classic accounts of grounded theory, such as ageing, illness and dying, are focused on 'what happens to people', and the consequences for others, rather than the actions of people to make things happen. This has led to a 'revisioning' of grounded theory. For example, Charmaz (2000) offers a more narrative or 'constructivist' approach to grounded theory, though, for the purist (e.g. Glaser, 2002b), this stretches the concept of grounded theory beyond breaking point.

To sum up, those using grounded theory need to be aware of the divisions among its founders in ways they frequently are not; they need to be clear as to whether they are 'buying the whole package' or are borrowing from coding procedures; they need to develop a critical commentary on the use of grounded theory and be prepared to adapt it to their circumstances. Users of grounded theory need to understand that it was developed in response to positivism, not postmodernism, and this explains its fixation on rigour and systematic attention to empirical data. Grounded theory procedures are often applied rigidly and uncritically, and in many circumstances new researchers may be better arguing they are 'borrowing from grounded theory' or 'owe a debt to grounded theory' rather than following all the assumptions of grounded theory. Adopting grounded theory does not excuse the researcher from explaining his or her epistemological position and consequent assumptions about causality.

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INDUCTION

Induction is the process by which we draw a general conclusion from individual instances or observations. It is thus a bottom-up approach concerned with identifying patterns within data and is in stark contrast to **deduction**, which aims to test hypotheses in a top-down fashion. The benefits of an inductive approach – as seen, for example, in **grounded theory** – are that it allows the researcher flexibility, attends closely to context and supports the generation of new theory. To its critics, however, inductive research painstakingly works from first principles when there is no overriding need to do so, given there is already a huge amount of existing literature.

The philosophical basis for induction has been discussed with a particular emphasis on Popper's work in the middle of the last century. Popper (1963) argued that scientific reasoning was 'asymmetrical'. We can never achieve the proof or 'verifiability' of a general statement, theory or hypothesis – but we can falsify it, and thus move on to the search for another hypothesis, which, in turn, will be subject to 'falsifiability'. Popper argued that this is how science progresses. The classic example used to illustrate induction seems to involve swans. I observe a series of white swans and induce the general statement that 'All swans are white'. If I later observe a black swan, my general conclusion has been falsified. Thus, the process of induction (moving to a general conclusion from a series of observations) is logically invalid or 'fallacious'. The 'fallacy of induction' was perhaps stated most clearly by the Scottish philosopher Hume and, although Hume argued that induction is not a logical step, he also felt that inductive reasoning was inevitable in human life. Indeed, it could be argued that induction is essential for us to live a manageable life – if we drive a car or take a bus and in the past we have safely crossed numerous road bridges, then we have to assume that the bridge we are about to cross is also safe. If we question every generality, our lives would be impossible. Social research builds by generalisation, though this is appealingly resisted by the narrator in Haddon's (2003) novel:

> There are three men on a train. One of them is an economist and one of them is a logician and one of them is a mathematician. And they have just crossed the border into Scotland (I don't know why they are going to Scotland) and they see a brown cow standing in a field from the window of the train (and the cow is standing parallel to the train). And the economist says, 'Look, the

> cows in Scotland are brown.' And the logician says, 'No. There are cows in Scotland of which at least one is brown.' And the mathematician says, 'No. There is at least one cow in Scotland, of which one side appears to be brown.' And this is funny because economists are not real scientists and because logicians think more clearly, but mathematicians are best.

The approach taken by social researchers to induction and deduction will rest very much on the aims of the research (see **questions**), the disposition of the researcher and the norms and expectations within a particular field of research. The claims made for an inductive or deductive approach are contested fiercely but there is increasing recognition that this might not be a choice between one or the other. Instead, research can, and often does, proceed by taking an alternating inductive and deductive perspective – with observation leading to hypotheses that are then explored in relation to the data. This is to some extent argued for in key texts on **grounded theory** and provides a more pragmatic and abductive approach (Psillos, 2007).

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INTERPRETIVISM

The goal of interpretivist research is to understand the meaning that cultural and institutional practices have for those taking part. Interpretivism is therefore contrasted with **positivism**, which sees the world, and the conceptual categories we use to describe the world, as 'real'. There is no single source for defining interpretivism nor a single 'take' on its meaning, but there are different sources of 'inspiration' and reference:

- Many sociologists draw on Weber (2005) and take as a point of reference his work first published in German at the start of the last century on the Protestant ethic and 'the spirit of capitalism'. Weber was interested in why, historically, Protestant regions of western Europe seemed to be advancing more rapidly

economically than Catholic areas. Finding the existing set of explanations inadequate, he noted that within Protestantism (and particular sub-branches of Protestantism) moral value was attached to work and material success, while idleness was condemned. Hence, Protestantism provided just the right cultural attributes (acceptance of material rewards and delayed gratification for rewards) for capitalist endeavour to be sustained. This turned Marx on his head: cultural norms were not a consequence of capitalist organisation but capitalism was a consequence of particular cultural norms. Weber went on throughout his work to emphasise the importance of understanding (in his native language this was put as '*Verstehen*') social activity, rather than seeking external explanations of behaviour.

- Interpretivists of a more philosophical disposition draw on phenomenologists such as Husserl and Merleau-Ponty, who argued that consciousness was always directed towards something; put simply, we never see the world as it really is; we mediate our experience of the world through our concepts, thoughts and ideas. Inside this fairly straightforward idea lies a raft of diverging opinion and considered argument, but at its heart is the belief that consciousness is 'intentional'; the world does not appear to us as it is, rather we appropriate the world for ourselves. The implication is again here that we need to understand the intentions of those carrying out social activity; there is no objective description.
- A point of reference for many interpretivists has been the later work of Wittgenstein (1953). This has been a subject of diverging interpretations but one key element in Wittgenstein was the rejection of 'essentialist' definitions of the language used to describe the world; instead, concepts can only cover 'family resemblance'. There is, for example, no concept of game that would cover all the different types of games that are played, as each follows different rules but there are 'family resemblances' that make the concept of a game meaningful. For many social researchers, this implies that we should be careful of generalisation and look for the meanings of activity, and the language used to describe activity, within the particular contexts being studied (see MacIntyre, 1972, in **comparative research**). In a much cited contribution, Winch (1958) draws on Wittgenstein to argue that social activity – for example, such symbolic acts as making a sacrifice, showing respect, carrying out baptism into a religion – only make sense by understanding the 'rules and social practices'

that underlie them. To do this, we must somehow come to share the viewpoints, attitudes and feelings of the actors. The reference to Wittgenstein is taken up in later work by Geertz (see **description**) who makes a distinction between thin description (acts) and thick description, which explains the meaning of the acts and the rules which lie behind them.

- A further point of reference for many interpretivists is the idea of constructivism and social constructivism. Indeed, the concept of interpretivism is so closely associated with that of **constructivism** that one is often seen as a subset of the other, but there is not a single view as to which way round this relationship should be described. Constructivism and interpretivism share a view that as human beings we are meaning makers: the world is one in which we are required to seek out meaning rather than enter a world in which meanings are fixed.

The implications of an interpretivist position for social research cannot be reduced to the take-up of a single method, methodology or theoretical perspective, but we can expect interpretivists to consider the subjective nature of the world, to treat meaning as socially constructed and to have a special concern with the unique character of human activity and of the agency which creates social action. Thus, interpretivism may ask questions such as: What *are the consequences of* excessive optimism for stock markets? Why do people *choose* careers in public services? What kind of social capital *is created* within disadvantaged neighbourhoods? In methodology, interpretivists are more likely to undertake smaller-scale casing, adopt an exploratory approach to literature review, use in-depth interview techniques and so on. The language used by interpretivists will often reject the certainties of the scientific discourse: it might 'explore concepts', 'unsettle ideas', engage with 'social actors', seek to 'negotiate understanding', rather than provide proof or demonstrate.

Interpretivism informs a range of theoretical perspectives, including the once fashionable symbolic interactionism, which, in the much cited position of Blumer (1992), argues that humans act towards things on the basis of the meanings they ascribe to those things and that these meanings are derived from the social interaction that one has with others. Interpretivism underpins all research taking a broadly social constructivist approach, and the legacy of interpretivism can be seen in theoretical perspectives such as community of practice and actor network theory. However, researchers working within an interpretivist tradition may take strikingly different positions on the

limits of **agency** and the possibility of rational interpretation of intentions (see **postmodernism**).

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INTERVIEWING

Interviews can be defined as conversations between the researcher and those being researched, variously termed participants, subjects or simply 'interviewees'. Interviews are particular, 'unnatural' kinds of conversations, as they generally involve making explicit the rules of the conversation: what is being discussed and for how long, and the roles each party is expected to take. Interviews are governed by ethical rules concerning consent for the interview, for recording and for preserving the subject's anonymity and the confidentiality of the respondent. Interviewers will normally say who, if anyone, is funding the research and what will happen to the notes of the interview. The value of the interview is that it allows the researcher to probe an interviewee's account of an event as well as their thoughts, values, feelings and perspectives more generally. Interviews 'go deep', allowing the researcher to see an event or context from the point of view of the people he or she is researching; interviews are interactive allowing for clarification of questions and identification of unexpected themes. In contrast, surveys are better suited to getting the broad picture.

Interviews are often assumed to be immediate face-to-face encounters but this need not be the case. Telephone interviews have been common for many years and teleconferencing (with more recent variants such as Skype and Facetime) allow face-to-face contact at a distance. Many experienced researchers prefer the face-to-face interview perhaps because of its familiarity, worries over technology interfacing or because travelling to an interview and entering an interviewee's own home, place of work and so on shows a symbolic commitment to accessing a participant's voice. However,

it is an open question as to how much difference face-to-face interviewing makes in practice. With Internet technology, it is possible to carry out both asynchronous and synchronous online interviews. These pose particular challenges – for example, interviewees need to be comfortable with keyboard entry and with using the Internet in general. Text-based communication is almost always produced more slowly than speech and will be less spontaneous. However, online interviewing offers the opportunity to access interviewees across distance and time barriers, and some may find the environment less intrusive and providing better opportunities for reflective responses. There are some contexts in which the online interview may be particularly appropriate – for example, Houston (2008) carried out asynchronous online interviews with recent graduates of higher education, as this was most appropriate means to contact a transient population, and Ayling and Mewse (2009) used synchronous chat to interview gay men about their sexual activities due, in part, to its less intrusive nature.

Creating an interview schedule involves turning an area of enquiry into a set of questions that are meaningful for the interviewee. Interviews involve careful use of language, e.g. avoidance of jargon, and clarity in phrasing. Interviews are often broken down by type. The structured interview may be little more than a 'face-to-face questionnaire' and can be of value when a large number of interviewers are involved, e.g. in market research. At the opposite end of the spectrum, an 'unstructured' interview will be far less predictable, and what is covered will vary from one interview to the next. There is no set list of questions or rigid order. In some cases, it may be possible and productive to start with one single key question to act as a trigger. The path that the interview takes will then depend on the rapport between interviewer and interviewee and the social skills of the interviewer. An **inductive** coding structure is often needed to make sense of the interview. 'Semi-structured' interviews may be more manageable than unstructured ones, while avoiding the inflexibility of the fully structured approach.

As a method, the interview needs to be considered in relation to the aims of the research and its aptness for the research question. Much reported research addresses this explicitly, but there are some taken-for-granted assumptions about interviews that are less often critically explored or only raised in relation to special circumstances, such as interviewing children and vulnerable people. The interview, or at least the more open interview, is often imagined to be a kind of ideal speech situation in which the interviewee is allowed to question

assumptions made by the interviewer and to express his or her attitudes without internal or external constraints. However, methodologically, it is very difficult to make judgements about the openness of the interview except from the point of view of the interviewer not the interviewee. Furthermore, many researchers are more than willing to deal with procedures such as member checks and participant validation but less often consider the interview as an account constructed out of a particular dynamic created between interviewer and interviewee. In an obvious sense, the 'story' presented by the interviewee is one of many which he or she could tell with conviction. The interview is not, then, the 'truth' as seen by the interviewee, but a discourse about a topic, and in the telling of a story the interviewee is making sense of the story; in other words, the story changes in its telling.

The difficulties inherent in interviewing do not rule it out as a method of data collection, far from it, but they do make us more sensitive to the circumstance of data collection and more flexible in our concept of what an interview is. Ethnographers are long familiar with less formal, more conversational styles of interviewing, and feminist researchers unsettle the assumptions of the 'traditional' interview strategy on both moral and epistemological grounds. For example, in her work exploring motherhood, Oakley (1979) describes a more natural interaction with the women she was researching based on a sensitivity to the fact that she was present at critical moments during their lives. She would, for example, find it natural to offer to help with housework if that was appropriate and answer in a straightforward way questions about her own experience of giving birth when put to her.

As a final note, it should not be assumed that interviewing is best done in one-to-one situations. Group interviews or focus groups in which a researcher talks with, say, three, four or more people together can often have advantages. The interviewees may feel more secure and at ease if they are with their peers. They are also more likely to relax and jog each other's memories and thoughts. The disadvantages are also clear – for example, the groups can be swayed by more dominant members and it can be difficult to deduce the degree of agreement in the group if it is expressed implicitly. A focus group and indeed a one-to-one interview can be built around activity. For example, researchers studying kinship (Mason and Davies, 2011) asked participants to sort through photographs and engage in 'resemblance-spotting exercises' in order to stimulate discussion. Repertory grids have also been widely used. These lead participants to

systematically discuss similarity and difference in 'constructs'; Canning and Holmes (2006) provide an example in the context of gathering feedback on the design of a museum. Focus groups can be conducted online with discussion forums, blogs and Twitter posts used as a means of support (see also **diaries**).

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KNOWLEDGE

Knowledge is an ambiguous term used, for example, to cover intellectual or physical competences or abilities (how to speak German; how to ride a bicycle); to cover a kind of familiarity (to know someone as a friend or neighbour; to know one's way around a building or a locality); and to consider the acquisition of facts and concepts through conscious learning activity (when Socrates was said to be born; the suggested causes of the Russian revolution; the distinction between real and imaginary numbers).

For some with roots in positivist epistemology, a key reference point for which is Plato, knowledge has an objective character and represents justified or true beliefs. In other words, what we know, rather than what we choose to believe, is an outcome of the exercise of impersonal reason; faced with the same evidence, any fair observer would be bound to reach the same conclusion regarding our claims to knowledge. This classical version was revisited in the Enlightenment, which sought to contrast what was known through the exercise of universal reason with what was held to be true through custom, religion or by superstition. Academia has traditionally had a close association with this traditional view of knowledge and been seen as

offering, at least in theory, an opportunity for the construction of rationally justified 'bodies of knowledge' through the disinterested pursuit of truth and the freedom to ask difficult and unsettling questions. In this version of knowledge, to know is to establish true propositions about the world (things we *know that* are true) independent of the observer.

Academic knowledge has traditionally been seen not only as propositional but also as 'second-order knowledge' abstracted from everyday observation. Academic knowledge is **etic**; it explores concepts, their meanings and their relationships to one another rather than first-order or everyday knowledge derived from immediate sensory observation (Laurillard, 2002). Borrowing from Durkheim (1915), academic knowledge is often taken as 'sacred': it is bounded by a canon of authoritative texts, which can only be extended or reinterpreted through rigorous appraisal following guidelines and processes understood in full only by the initiated. Academic knowledge is esoteric and invests heavily in rituals and procedures that stress and reinforce its refined nature. Academic knowledge need not be practical but, once established as true, it will find an application.

This classical view of knowledge has been undermined in recent years. Knowledge is increasingly seen as personal, rather than impersonal; knowledge and beliefs are so closely entwined that there is no easy distinction between what we know and what we believe (Dewey, 1930). For Polanyi, coming to know is driven by a sustained effort or 'passion' to understand the world; meaning does not come to us 'on a plate' (Polanyi, 1962). Using a distinction offered by Ryle (1949), propositional knowledge (*knowing that*) can be contrasted with practical knowledge or *know-how* derived from reflection on action. To some, academia has been too ready to dismiss 'know-how' and has failed to recognise the artistry behind professional practice (Schön, 1983). Indeed, for some, academic research has been too focused on the cognitive (what exists in the mind of the individual) rather than situated cognition concerned with our understanding of context and the benefits of intelligent and reciprocal collaboration. Well-rehearsed distinctions between first-order and second-order knowledge, between cognition and experience, between knowing and belief are much more subtle than once thought; knowledge emerges from engagement with the world not distance from the world. Practical or professional knowledge should not be dismissed lightly; it may be 'profane' rather than sacred but it is trustworthy and its warrant can be established in pragmatic ways. What counts as knowledge is what works at a particular time not what is true across contexts.

Faced with these competing versions, how is a researcher expected to make a contribution to knowledge if there is no agreement as to what knowledge is? One obvious way of addressing the question is to set out one's own view first and argue according to the logic of that position. For example, a positivist inclined researcher will argue that there are impersonal standards of validity and reliability by which their research can be assessed and that they are making an identifiable and explicit contribution to a wider disciplinary body of knowledge. At the other end of the spectrum, a more interpretive researcher will highlight the personal nature of knowledge, but argue that there are criteria of **trustworthiness** or validation against which their research can be evaluated and perhaps argue that the wider value of their work lies in its relatability. Between these two positions, other researchers may argue that they are making a contribution to different kinds of knowledge, and indeed the same research may not only address discipline problems but also make a contribution to practice by recommending suitable forms of action to address practical problems. As seen earlier in relation to **emic** and **etic**, research can appeal to different audiences or, indeed, borrowing from Barnett (1994), could help construct 'life world knowing', in which research problems are generated by practical contexts but also informed by disciplinary knowledge. Truth criteria could go beyond simple technical rationality and be established by consensus through something approaching an ideal speech community (see **critical theory**).

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LIFE HISTORY

Put simply, life history presents an individual's or individuals' experience of life. Life history is sometimes included as a type of narrative enquiry, but the latter generally has a more specific focus on themes or responses to particular events, while life history has a more general interest, indeed fascination, with life as it has unfolded. Those carrying out life history seek an in-depth engagement with those with whom they are working and use empathetic imagination to see the events through another's eyes. Typically, research relies heavily on interview data but this may be cross-referenced to documents and other secondary sources. The purpose of life history is varied but frequently involves the desire to give voice to a 'life as lived', or at least a particular kind of experience, and to awaken public understanding and concern for an issue. Life history can engage the reader in a consideration of what it means to be human, and underlying a commitment to life history is a belief in the fundamental place of storytelling in the creating and sharing of knowledge.

Life history has long had enormous popular appeal pre-dating any academic interest. For example, journalists have frequently engaged with life history in their reporting. An early example of this is Mayhew's (1862) life histories of the poor in 1840s London which communicated the degree of hardship suffered by the urban poor and perhaps also their resilience. Similar concerns often underlie the many studies focused on the experience of immigration and emigration, with a noteworthy example in the USA that of Kingston's (1989) imaginatively constructed evocation of Chinese women coming to the USA. Popular life history appeals to our imaginations and our empathy with 'actors'; it enables us to see the extraordinary in what is so often taken for granted.

Analysis in life history is varied. It may focus on the individual life or may seek generalisation across individuals. In between, the researcher may be concerned for both the particular and the general; as put by Kluckhohn and Murray (1948: 35), in the language of the day, 'every man is in certain respects, (a) like all men, (b) like some men (c) like no other men'. This is discussed in relation to Lewis (1961) in his celebrated account of the Sanchez family. Lewis was concerned to explore the universality of poverty through the life of one family, but it is perhaps the individual stories of the family that one remembers, rather than the generalisations he made concerning poverty. Indeed, a concern for generalisation across a range of experiences may take us out of life history towards

more 'mainstream' interpretive enquiry as with, for example, Huberman *et al.* (1993) in a much cited study exploring themes such as stability and change within different stages of teachers' lives in Switzerland.

Life history presents challenges concerning access to participants and focus of analysis. It also has to deal at a fundamental level with questions of **agency** and **determinism**. An interest in the human being as a unit of analysis suggests a concern for agency, and a belief that we have choices and how we act makes a difference to our lives. This is appealing particularly when seeking to celebrate courage, resilience, even survival. However, the researcher must seek to show the same kind of empathetic imagination in reporting individuals whose behaviour has been cruel and destructive; this is much less appealing and less reported. Academics engaging in life history need to consider, too, their relationship to those whose lives they seek to understand. They are often drawn to a more collaborative and interconnected type of research, with participants checking carefully their descriptions and interpretations. This may lead to collaborative writing practice with an example here that of Cruikshank (1992) and her construction of life stories with three 'Native elders' in Northern Canada. The stories deal, at heart, with the impact of change on traditional communities; they are reconstructions of oral interviews but are recognisably **emic** accounts, albeit prefaced within an explanation of context and methodology of greater interest to an **etic** audience.

Given the importance of 'giving voice' to participants or collaborators, life history research is often written in an engaging style and may have an unexpectedly wide appeal. Researchers in academia need to clarify how and why their life history accounts differ from popular life histories. Part of the answer may lie in the self-conscious adoption of thick description; an awareness of a wider social-cultural context; a self-conscious comparison reference to other literature; and a methodological concern for ways in which life histories are constructed; and a specialist concern for criteria, such as trustworthiness and relatability. Those engaging in life story research should ensure that they are conducting research with colleagues who understand this approach. The importance of working with sympathetic colleagues is, of course, a general point but this is particularly the case with life history – it is impossible to explain the importance of giving voice to 'actors' in everyday life to someone who does not think this is the proper concern of 'social science'.

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LITERATURE REVIEW

A literature review gives an overview of what has been written about a particular field or topic. It covers what has been said, who has said it, and sets out prevailing theories and methodologies.

There are different types of literature review and different types of literature to review. Academic literature covers peer-reviewed journal articles and books written for academic audiences, while professional literature is written for the profession, for example, professional association and government reporting for social workers, teachers, policy makers and so on. Increasingly referred to is 'grey literature' written for 'crossover' audiences, for example, evaluations of projects that carry wider significance. Typically, grey literature has undergone a review process of some kind but not the strict academic review associated with journals. Increasingly important too are web-based documents, including blogs and conference papers, though, in principle, they can be categorised according to whether they are addressed to professional or academic audiences.

There are different categories of review, even if most literature reviews generally share a concern for providing an overview of a field. A literature review is sometimes divided into conceptual and empirical sections, though this is rarely neat in practice and some cases cannot be divided in this way at all. A conceptual review might cover the history and different meaning given to key terms in the study – say, participation, learning, community, poverty, democracy and so on – and will identify points of agreement and disagreement between writers (for further details, see **concept**). Such a review is often based

on an understanding, rarely made explicit, of who are the significant thinkers in a field. Empirical reviews in contrast seek to draw more pragmatic conclusions by aggregating empirical studies. This review need not be systematic in the technical sense of the word but should deal with how and why selections from the literature have been made; the availability of the literature, for example, whether this is an under- or well-reported field; any systematic 'bias' in what is available in the framing of the questions and the contexts in which research has been carried out (see **criticality** and **positionality**). More systematic reviews need to be more clearly explicit about predetermined criteria for which studies are included and to follow closely defined protocols for analysis and reporting. A systematic review will set out criteria for eligibility and relevance and will list all the databases and citation indexes searched. An example here is a systematic review examining the impact of homework on academic achievement by the Canadian Council on Learning (2009) in which researchers located more than 2,000 reports on homework, only 64 of which met the criteria for inclusion in the study. These articles were further assessed against quality criteria allowing them to be weighted in the final aggregation of findings.

A systematic review lists and 'weighs up' the evidence from the literature. A meta-analysis can be considered as a particular kind of systematic review that seeks to aggregate findings in a quantitative fashion. Very often meta-analyses will carry out a factor analysis or other explicit modelling. An example here is a meta-analysis of 'labour market interventions' (Card *et al.*, 2009) considering the effectiveness of policies such as subsidised employment, short-term training and job-search assistance on employment outcomes. The analysis considers 97 studies conducted between 1995 and 2007 and, as with many studies of this kind, a mixed picture emerges but overall there is evidence of impact. The benefit of a systematic approach is its transparency; the evidence seems fairly put together and conclusions explicitly set out. However, systematic reviews can be criticised for their inflexibility, a lack of concern for context and a privileging of quantitative studies, though the latter need not be the case (see **evidence-based practice**). In contrast, a more flexible review can be more discriminating but is always subject to the charge that literature has been marshalled to support a predetermined point of view.

The rationale for any kind of literature review is an obvious one: it saves the researcher from time-consuming pursuit of both conceptual and empirical evidence that is already available. In the old adage, the

new researcher stands on the shoulders of, if not 'giants', at least what has gone before. By reviewing the literature, the researcher is showing the reader how his or her research is adding to the field and putting these new findings in context. At a more subtle level, writing the literature review enables the researcher to locate a study in the history of a particular field and key areas of debate and controversy. It helps the new researcher to see where he or she 'fits in'. Within a deductive approach, the literature review has a special function as it establishes the basis for hypotheses to be explored. Within a more **inductive** approach, and within **grounded theory** in particular, the literature review may be undertaken during or at the end of the study perhaps as a kind of external validation of the conclusions drawn. This has advantages. First, it allows the researcher to 'purposively sample' the literature in relation to the hypotheses developed during the research. Second, it helps the researcher to keep an open mind on interpretation of the data as they emerge, just as a jury might be asked to consider the evidence untainted by knowledge of a defendant's prior convictions in a criminal trial. To its detractors, delaying the literature review is perverse as it may prevent the researcher from exploring lines of interpretation that have proved to be productive in the past.

Literature reviews are often carried out by new researchers as a one-off when starting a project study but, whatever stance is taken on inductive and deductive approaches, a review should be continually updated throughout the project, particularly a long-term one such as doctorate research. This enables the researcher to include more recent sources of evidence but more importantly allows a reframing of the themes of the review to suit the direction in which the project is going, for example, something that may have once been a minor theme within the review may become a major issue. A literature review completed early in the research can appear 'orphaned' from the study that follows and it is surprising how many researchers claiming to take an inductive approach to their study make quite deductive assumptions about the timing and significance of their literature reviews.

A recurring criticism of literature reviews as presented in many dissertations and theses is that they often become a list of 'who has said what': the literature review resembles 'a furniture sales catalogue in which everything merits a one paragraph entry no matter how skilfully it has been conducted: Bloggs (1975) found this, Smith (1976) found that, Jones (1997) found the other, Bloggs, Smith and Jones (1978) found happiness in heaven' (Haywood and Wragg,

1982: 2). Eisenhart (1998) argues for a more purposive approach by treating the literature critically and looking for something surprising and enriching in the sources being reviewed and staying sensitive to the circumstances in which the literature was produced. Less radically, a thematic approach is possible if the literature is taken as another source of data that the researcher should interrogate by using coding and content analysis strategies. Findings can be reported thematically with judicious use of sub-headers, such as literature accessed, key findings, methods used, implications for this study, and so on. A further recurring criticism of literature reviews concerns the taken-for-granted generalisability of findings. An international perspective on literature is valuable but it should not taken as given that, say, findings from nurse education in Australia are directly transferable to research carried out in Algeria.

As a final note, the conduct of literature reviewing has been transformed by the introduction of new technology. This has allowed access to an increasingly wide range of resources over the Internet and the more systematic organisation of notes and references using specialist software or flexible adaptation of general-purpose programs. However, the nature of the literature review has not changed, and the problem of bias in the availability of literature has not disappeared simply because much more is accessible.

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LONGITUDINAL STUDIES

A longitudinal study is one that takes place over time so that the same participants are, for example, observed, interviewed or surveyed at intervals on at least two but very often more occasions. A very large number of longitudinal studies have been undertaken within the context of, for example, tracking health outcomes, educational achievement, satisfaction at work and so on. Longitudinal studies are

valuable, as very often they take place in natural settings and track movements in knowledge, attitudes and behaviour. Longitudinal studies may be used for descriptive, exploratory and hypothesis-testing purposes.

Cohort studies are often cited as examples of longitudinal studies. A cohort is a population, for example, those who were born in a given year or all those who graduated from a particular educational or health programme at a particular time. Large-scale cohort studies are being undertaken in many countries; an example in the UK is the Avon Longitudinal Study of Parents and Children (www.bristol.ac.uk/alspac/), which has been tracking around 14,000 children born in 1991 and 1992. The data are available for secondary data analysis and have been used to explore relationships, for example, between social class, ethnicity and family breakdown on health and educational outcomes. Longitudinal studies often construct 'panels', which are deemed representative of a wider population. An example is a panel of voters who are contacted and interviewed at different moments during an election campaign, giving researchers an indication of movements in opinion and enabling them to suggest reasons for those movements. A historic, and much cited, example of a panel study was the 'Terman Study of the Gifted' initiated by Lewis Terman in 1921 in order to track the development of gifted children into adulthood (e.g. Terman, 1959). The original panel contained more than 1,500 children with IQs measured at over 140. A key aim of the study was to 'dispel the myth' that those with high IQ were social misfits, and the study has often been quoted when challenging prejudicial reporting of giftedness. Along the same lines, and of wide public appeal, there is a plethora of television programmes inspired by the original UK 1963 television documentary *Seven Up*, in which panels have been re-interviewed at seven-year intervals, providing viewers with a fascinating insight into the process of socialisation and, in the more established examples, transition to early and later adulthood (Kilburn, 2006). On a larger scale, household panels are regularly interviewed in most countries to monitor economic and other activity. Again, a UK example is the British Household Panel Survey (BHPS) involving a representative sample of households who have been contacted each year from 1991 (www.iser.essex.ac.uk/bhps). The panel contains more than 10,000 respondents (children in a household are interviewed once they reach eleven years old).

Longitudinal studies are often retrospective in that the data may be used or 'mined' long after they were collected. Many studies in health, social work, education and economics use census and

household survey data; an example is Gardner and Oswald (2006) who use BHPS data to address the question as to whether divorcing couples become happier after breaking up. A different kind of retrospective longitudinal study is suggested by the German Life History Study (Bruckner and Mayer, 1998). Here respondents, several birth cohorts in what were East and West Germany, were asked to look back on the significant features of their lives. This is more usually the concern of life history and narrative enquiry but by taking a large-scale sample and treating the time dimension carefully the study has been described, and describes itself, as a longitudinal study. One of the most interesting features of the data is that they enable comparison between experiences in West and East German political and economic systems.

The attraction of the longitudinal approach is clear. It allows researchers to describe and explore what happened rather than speculate on what might happen. Longitudinal data can be made available to other researchers and used flexibly for a range of purposes (see **secondary data analysis**). Longitudinal work often has popular appeal; it helps us see lives and the forces or factors that shape lives. While most short-term projects and indeed longer-term doctoral research will only have limited opportunities for collecting longitudinal data in their own right, nearly all projects can benefit from carrying out follow-up interviews with respondents to investigate whether their attitudes and opinions on an event have changed over a period of time. This, of course, is time consuming but it can address the charge that research typically misreads short-term factors as permanent or cites 'no immediate impact' when this may be a case of 'not yet'.

There are, however, methodological difficulties with longitudinal studies. For example, if panels are to be representative, researchers need to explain how samples have been created and to discuss the implications of falling retention rates. Members of panels need to be 'enlisted', and researchers will often seek to do so by appealing to civic responsibility. They may also offer monetary payments to those taking part, though there is dispute as to the ethics of this and indeed the impact payment has. Participants need to be reminded at intervals about the study and generally encouraged to take part. However, in maintaining this contact, the research may impact on the behaviour of panel members, as, has been argued, happened in the Terman study cited earlier. Those using longitudinal data for secondary data analysis need to have an awareness of the historical circumstances in which data were collected, for example, to be sensitive to the conditions of

health care, economic prosperity and civic or national conflict at the time, and should avoid mechanistic extrapolation of data.

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METAPHOR

A metaphor seeks to explain an action or idea that is difficult for the reader or listener, and indeed for the speaker or writer, to grasp by making a comparison to a more familiar context or example. In literature, metaphor can be used for rhetorical effect, for example, the lover may say to his or her beloved that 'your eyes are jewels' and in mathematics a teacher may use cognitive metaphors to explain abstract ideas, 'imagine your equation is a set of scales which you have to balance'. Everyday speech is rich with metaphor – for example, if we could not get to sleep we might have been 'fighting' sleep and if we are overtired we might 'get out of bed the wrong side'.

Metaphors may be 'living or dead'. A living metaphor provides a context that is familiar and a juxtaposition that is original, or at least appears fresh to the author and listener/reader. An often cited example is the speech given by Martin Luther King in support of civil rights in the USA in 1963. This was heavily laden with metaphors: King spoke of 'a dream that one day even the state of Mississippi, a *desert state*, *sweltering with the heat* of injustice and oppression, will be transformed into an *oasis of freedom* and justice'. Much of this continues to resonate for a contemporary audience. In contrast, when a metaphor is dead, or dying, the original context of the metaphor has been lost even if the comparison is still recognised as metaphorical. For example, people across many cultures might talk of 'getting out

of bed the wrong side', even if they have little sense of the religious or folkloric roots of this expression. Many metaphors are also used unthinkingly, so that the original meaning is accessible but no longer considered. For example, the metaphorical significance of being told that 'your eyes are jewels' may become an irritating cliché on repetition. Of course, the interpretation of the metaphor is in the mind of the beholder: we have a great many words associated with money and wealth ('filthy rich', 'loaded', 'has it coming out of his ears'), which live on for the Freudian analyst but not so much for the rest of us. Lakoff and Johnson (1981) put metaphor as central to conceptual understanding and argue that the use of appropriate metaphor may enlist support for a proposition and open up/close down debate on a contentious issue. Not all commentators in the field of linguistics give the same force to these arguments (Steen, 2011), but there is widespread agreement on the importance of metaphor.

Social researchers use metaphor a great deal as they are dealing with very abstract ideas. *Bodies of knowledge*, *discipline*, *triangulation* and *interrogation* are all interesting metaphors in the context of research methods, as indeed is the concept of 'field' used earlier. However, while metaphor clarifies, it also presents ambiguity. For example, the metaphor of the field works to convey the existence of tightly delineated areas demanding highly specialised attention, but how dense are the barriers? If we think of a magnetic or force field, we might think of barriers through which it is barely possible to pass, but, if we think of a field of barley or field of corn, the barriers are more symbolic, though anyone entering a cultivated field will do so carefully. Perhaps the overuse of the word 'field' limits us from imagining what a cross-disciplinary approach might look like; indeed, Weber, as widely reported, once snapped, 'I am not a donkey and I don't have a field' – though perhaps this sounds better coming from Weber.

Research is itself invariably described metaphorically as a 'journey', suggesting a sense of discovery and personal meaning making, even if many of the 'travel guides' to the process sometimes appear as all-inclusive package tours. Other commonly used metaphors we have for the social researcher are that of the 'scientist', the 'detective', the 'journalist' and the 'novelist'. A shift of metaphor is troubling for the reader. For example, researchers sometimes talk about their work being a 'journey', but later they put on a metaphorical white lab coat to 'administer a questionnaire' and 'address problems of bias and validity'. Researchers need to consider a consistent metaphor for their research. They can help themselves here by imagining the metaphor before committing it to paper. As Orwell (1946) complained in an

essay on politics and the English language, the lazy or misleading use of metaphor is a means of obscuring a message both for the writer and the reader.

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METHOD

Research methods provide the means through which data are gathered and analysed within a research study. Hence, research methods include interviewing, surveying and observing, as well as analytical tools such as content analysis, discourse analysis and inferential statistics.

Methods are often discussed as quantitative or qualitative. Quantitative methods are generally seen as dealing with the collecting and measuring of data in countable form, for example, test scores, Likert scales, reaction times and so on. Quantitative methods often help gauge the spread of opinion or behaviour within a group and are often associated with **surveys**, **experimental methods** and hypothesis testing. Qualitative methods, on the other hand, deal with data that are not presented in countable form and need techniques such as coding and content analysis in order to be managed and analysed. Qualitative methods feature strongly in methodologies such as **life history**, **narrative** enquiry, **case study** and **ethnography**, which tend to help describe and explain local rather than general conditions. There is often considered to be a bias towards quantitative methods in institutionally funded research, but qualitative reporting can provide credible and influential evidence for policy makers.

'Quantitative' and 'qualitative' have often been differentiated as methodologies. Qualitative research has been used as a 'placeholder' for an interpretive approach to research, for example, Denzin and Lincoln (2005), and, in Strauss and Corbin (1990), as a description of **grounded theory**. A qualitative approach is seen as implying a concern for more inductive analysis, for exploring, explaining, uncovering phenomena and for generating new theoretical insights.

A quantitative approach, in contrast, is seen as a more deductive approach and useful for hypothesis testing based on descriptive and inferential statistical analysis. However, this mixing of method with methodology fails to recognise the flexibility with which methods can be used and, for that matter, reinforces an unhelpful divide between 'numerate' and 'non-numerate' researchers. In practice, many studies will employ a mix of methods; for example, researchers might carry out a survey that measures opinion in countable forms as well as interviews of a sub-sample of the surveyed population. Even within one particular method, mixed data may be collected. For example, those running focus groups may use ranking or other exercises in order to stimulate discussion and most surveys will contain at least some open-ended questions. Indeed, even the most resolutely qualitative researcher will quantify data in some way, for example, noting the frequency with which a view is expressed, or a code applied, within a set of interviews or observations.

Mixed methods research has clear benefits in that it provides confirming, complementary and contrasting sources of data, very often as part of a strategy of triangulation. Mixed methods can enable precise and in-depth report; words, pictures and narrative can be used to add meaning to numbers and vice versa. There seems no reason, in principle, why a mixed methods approach should not be followed, though, in practice, researchers may rule out certain 'tools'. For example, hard-to-reach populations will almost by definition be averse to completing surveys and some participant observers may stick rigidly to 'naturalistic' methods of data collection. Those carrying out research on their own, rather than in teams, may further be challenged by certain methods, though with support this is far from an insurmountable problem. There are, of course, further challenges in analysing different sets of data. For example, many researchers seem biased towards 'confirmability', so that the data are expected to show consistency even when they do not and perhaps should not. At times, mixed methods are used almost at a surface level, to tick a box, rather than as a means for an exploration of a phenomenon in greater depth.

As with 'quantitative' and 'qualitative', the label 'mixed methods' has sometimes been used as a placeholder for a particular methodology, for example, one which mixes inductive and deductive approaches (e.g. Johnson and Onwuegbuzie, 2004). The criticism here is again that something is being discussed at the level of method which should be discussed at the level of epistemology (Symonds and Gorard, 2010).

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METHODOLOGY

Methodology generally refers to the rationale for the application of particular research methods. Methodology takes its place in the middle of a hierarchy of considerations when carrying out research. At the top of this hierarchy lie ontological and epistemological assumptions about social research and the particular research questions being posed. At the bottom lie research methods, the tools for collecting data. In the middle lies methodology. Methodological considerations frame the use of particular methods but methodologies themselves are consequences of particular research questions. For example, 'how many'-type questions suggest a survey methodology; 'how can I improve' questions suggest action research as a methodology; 'is this approach better than that … ' suggests an experimental design, and so on (see **questions**).

The dividing line between methodology and methods is fairly clear; the methodology provides the framework and the methods provide the means to collect the data. There is a one-to-many relationship between methodology and methods, for example, a single methodology such as ethnography may make use of diaries, interviews, observations. The dividing line between methodology and epistemology is not, however, as clear as that between methodology and method. For example, Creswell (2003) (see also Lobe *et al.*, 2007) treats methodology in a wide sense to cover the nature (or theory) of knowledge; the approach to empirical research; and the specific methods used. Hence, the researcher needs to raise questions of epistemology within a discussion of methodology. This is fine in principle but is sometimes neglected in practice, for example, if following an action research *methodology*, researchers need to explain whether they are making an explicit commitment to **pragmatism;** if following grounded theory, researchers need to say whether this is or is not a 'constructivist' approach; and experimental researchers need to explain whether or not they are committed to the logic of the hypothetico-deductive method. Discussion of methodology necessarily involves discussion of **position**, the exercise of **reflexivity** and an

awareness of **ethical** issues. In discussing methodology, researchers should provide examples, if not an audit trail, of **analysis** carried out and their stance in relation to questions of **validity** or **trustworthiness**.

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NARRATIVE

Though open to a range of meanings, a narrative has, at its core, an attempt to 'fit a story into a plot line' so that the narrative enquirer is seeking to understand the way participants make meaning of the events that shape the way in which they have lived their lives. Narrative enquiry may be as concerned with the form of narration as much as the content and storytelling may be considered a 'performance' or a kind of discourse. It is often reported in an accessible form and it has broad popular appeal, for example, being a staple component of print and broadcast journalism.

Narrative enquiry has many of the strengths and challenges discussed in reference to **life history**. Indeed, the distinction between narrative enquiry and life history is one of degree rather than kind and the two can easily blend. As with life history, narratives may focus on the individual participant or may seek to generalise across experiences, a more nomothetic approach. Spreading the net wider, there has been interest in working across studies allowing for a kind of meta-analysis of different narrative accounts, though this raises challenges in giving attention to the context in which the narratives have been constructed (Josselson, 2006).

Again, as with life history, the purpose of narrative enquiry may be **emic**, perhaps giving voice to an underreported kind of experience, or **etic**, located within the concerns of a community of scholars, or a combination of the two. Narrative enquiry may use a range of methods, including diary entries, blog posting and interviewing, and narratives may be triangulated against secondary data and/or documents that the participant him- or herself provides, for example, photographs, medical records, wage slips, passports and so on. Many narrative researchers will have an implicit or explicit commitment to working collaboratively with research participants.

Narrative researchers may set out with a specific focus and purposively select participants. For example, researchers may ask respondents about turning points in their lives, such as transitions within education, adolescence, divorce, sexual abuse, dealing with unemployment, illness, addiction and so on (e.g. McAdams *et al.*, 2001). Alternatively, researchers may take a more inductive approach and seek to identify these turning points in the course of the enquiries (see Huberman *et al.*, 1993, in **life history**). Narrative enquiry has been used to throw light on professional practice. As an example, Riley and Hawe (2005) use diaries kept by community development workers as a kind of narrative enquiry into the way in which values are expressed in professional practice. Narrative writing, including fictional writing, has also been used in its own right as a tool for continuing professional development and in some cases for therapeutic counselling (e.g. Wright and Chung, 2001). Narrative enquiry lends itself to a cross-disciplinary approach, for example, Misztal (2010) explores overlaps between memory research and narrative enquiry.

Narrative enquiry has become increasingly popular as an academic approach, fuelled in part by the demise of positivism. As with **life history**, those embarking on narrative enquiry need to clarify their concern for trustworthiness and relatability and explain the quality criteria by which they should be judged.

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OBSERVATION

Observation concerns our direct experience of a phenomenon or event, be it interaction in the classroom, life on a street corner, the

treatment of terminally ill patients, television-viewing habits and so on. The key value of observation is that it deals with behaviour rather than reported behaviour. This is important as there may be a considerable mismatch between what we say and what we do. Of course, at times, some respondents may, out of a sense of playfulness or even malice, misreport their behaviour, but a more general consideration is that our reporting is skewed by our personal values and deeply held beliefs about the kind of person we think we are. For example, someone who feels deeply committed to their work and the goals of an organisation may, in good faith, overestimate the effectiveness of their output and the hours they 'put in'. More subtly, our comprehension of our own behaviour is often described as 'tacit' and not easy to access: a common example of this is the driver who cannot describe the processes of changing gear or how to 'reverse park' as they become so routine. Those researching professional practice are similarly aware that practitioners will miss the artistry that goes into skilful performance, as it is something taken for granted: as Polanyi (1967) put it: 'we know more than we can say'. Reporting of behaviour is said to lack ecological validity, for example, learners and teachers are often asked to complete learning or teaching styles inventories in order to categorise themselves along different dimensions, say, surface and deep learning; learner-centred and teacher-centred teaching. However, these are poor guides as to what students and teachers do in particular contexts and do not explain shifts in behaviour from class to class; as Kane *et al.* (2002) report, inventories tell only half the story. Self-reporting is not an accurate prediction of behaviour at a more general level; as Baumeister *et al.* (2007) argue, what people say they would do in everyday situations, such as helping someone in distress, may not match what they will do if faced with that situation for real. Whatever the cause of a mismatch between reported and actual behaviour, observation can provide a valuable and distinct angle on a research enquiry.

There are many examples of studies that use observation as a means of data collection. For example, Jankowiak *et al.* (2011) identify the frequency of particular types of interactions, including aggressive and dominance displays and cooperative and altruistic acts, when observing play in two regions of China. This, taken together with interviews, allows the researchers to present a more complete view of childhood play. Observation of behaviour also figures highly in the study of new technology as in, for example, Farmer *et al.* (2008) who observe, and carry out content analysis of, student blogs as a part of a mixed methods case study on blogging in higher education. With

due regard to ethical issues, new technology can also be used to extend the nature and range of observational data, for example, through the use of web cams to capture interaction in the home; GPS logging of movement patterns in a city; even eye movements in front of exhibits in a museum or art gallery.

As with interview protocols, observation can be structured or unstructured. The ethnographer may, for example, begin by following open-ended and unstructured note taking (see the example of the restaurant given in **grounded theory**) even if observation is always within some kind of framework. At the other extreme, observation can be very tightly structured along predetermined lines, sometimes called 'systematic' observation, so that the observer knows precisely what is to be recorded in advance. An advantage of the latter is that different observers can compare findings easily and established protocols have undergone some kind of usability testing. A disadvantage is that if the researcher takes an observation schedule on trust he or she will not understand the logic of its design and it may not be 'fit for purpose'. Overly structured observation may end up missing the important in favour of what is more easily recordable. Many researchers will alternate between unstructured and structured approaches, generating and testing out frameworks based on extensive trials. Whatever approach is taken, observation requires practice; any observation schedule can feel overwhelming for the novice researcher, indeed for any researcher starting a new project. Where possible, observation can be improved with peer feedback and some observers use a stimulated recall approach in order to discuss both the accuracy and interpretation of recorded observation with those they have observed. Structured observation can be subjected to inter-rater reliability testing and can be seen as part of a strategy of **triangulation**.

Participant observation is a particular kind of observation in which the observer becomes immersed in the everyday life of the institution or environment. It has the considerable advantage of giving the researcher the 'whole picture': not only the human activity and interaction, but also the location, artefacts, resources, environment and so on. It allows for repeated observations over time. As seen in discussing **ethnography**, participant observation varies according to the depth of participation and raises issues of ethics, particularly in relation to covert participation. However, participant observation is fundamental to the in-depth understanding of social activity that ethnography provides.

Some (e.g. Baumeister *et al.*, 2007) see a decline in the use of observation in the wake of greater sensitivity to ethical questions and

its time-consuming nature. Perhaps, too, there is a shift of emphasis in social research from reporting behaviour to understanding the inner motivation of the actor for which interview and self-reporting is paramount. There are limits on the value of observation: we cannot ascribe intention on the basis of observed behaviour, we can only suggest possible motives, and ideally seek clarification and confirmation from those being observed.

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ONTOLOGY

Ontology concerns claims about the nature of being and existence. One of the most long-standing ontological questions in philosophy concerns the existence, or otherwise, of God or at least some sense of a higher being. This has provided a springboard for philosophers to question, among other things, the purpose of existence, the nature of a priori reasoning, the meaning of sensory experience and what constitutes valid argument. In the more down-to-earth world of social research, thinking about ontology refers to beliefs about the fundamental nature of reality, in particular social reality. These beliefs are often discussed in terms of dichotomy (e.g. Bryman, 2004) between, on the one hand, an objective reality which exists independent of the observer, and, on the other, reality as it appears subjectively or, more commonly, as negotiated within groups. The former typically comes under the banner of objectivist, realist or foundationalist ontology, the latter an anti-positivist or anti-foundationalist ontology, informed by **constructivism** or **interpretivism**. The anti-positivist position is, in our experience, more widely held but

this generalisation does not necessarily hold across all countries, disciplines and indeed across time.

Ontology seems very abstract as an idea but questions of ontology are central to the questions asked in social research, to the concepts we use and the steps taken. For example, the positivist may ask 'cause and effect'-type questions, say, 'How does class background affect educational attainment?', while the anti-positivist may rephrase this question to ask, 'What different meanings have been ascribed to concepts of class and attainment?' and 'What type of explanation has been put forward to argue that class influences educational attainment?'. Ontology therefore sits at the top of a hierarchy under which epistemology, methodology and methods all 'get into line'.

Many researchers deal only superficially with questions of ontology and bury discussion of both ontology and epistemology by simply aligning with a method or methodology: 'this is a quantitative study'; this is 'case study', 'action research' or 'grounded theory'. However, when ontology is not examined, research often ends up being incoherent: it seems to set out within one ontological position and ends up working within the logic of another. This is helpfully discussed by Grix (2002) in a paper aimed at new researchers. The paper considers research into social capital: the key ontological question here is whether the concept of social capital (broadly speaking, social capital covers question of trust and networking between people and is associated with civic and other types of social participation) should be treated as 'foundational' or not. If so, social capital can be treated as a 'dependent variable' and can be measured through survey and other instruments. If not, social capital must be seen as a product of social construction, and an independent variable requiring methods that will enable interpretive understanding. Methods are then, implicitly or explicitly, the outcomes of an ontological position.

Grix (2002) is very helpful but needs qualification. First, it is very difficult (and confirmed in Grix) to talk about ontology without covering **epistemology** at the same time; the two are so tightly entwined. It is not, then, surprising that researchers often talk about a positivist and interpretivist 'approach' to capture both ontology and epistemology, though, of course, the word 'approach' is notoriously vague and requires careful definition. Second, many accounts of ontology present beliefs as immutable, the more strongly held, in fact, for being tacit or taken for granted. However, it is possible to 'cross borders', if not change belief, regarding ontological assumptions. As an ontological exercise, researchers might view their research from an alternative standpoint in order to better understand a position 'from the inside'.

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PARADIGM

The term paradigm has been used to refer to the dominant framework in which research takes places. This framework defines how problems are identified (what is to be studied); the epistemological and methodological assumptions behind the research (how it is to be studied); and what is done with the research (the nature and value of the knowledge generated).

The term is seen as derived, or at least borrowed, from Kuhn (1962) whose ground-breaking work challenged widely held views on both the objectivity and cumulative nature of scientific knowledge. Kuhn argued that 'normal' science took place within taken-for-granted theoretical frameworks, or dominant paradigms, which had been established to address critical questions. These paradigms did not fit all the material facts of a phenomenon but fitted those that mattered at a particular moment. At some point, however, a paradigm would fail to provide an explanation for a new set of data, or for an existing set of data looked at in a new light, and the paradigm was overturned. As an example, astronomers worked productively for many years within a view of the universe offered by Ptolemy, until this was turned on its head by a strikingly different conception put forward by Copernicus with the sun at the centre of a system of orbiting planets. The process of establishing a new paradigm requires a great deal of intellectual effort and the exercise of independent judgement; proposers of new paradigms in any field have to challenge the established ways of doing things. For this reason, Kuhn suggested that scientists tended to conduct their ground-breaking work when young, when habits and routines of observation are less ingrained. The history of science, in Kuhn's view, is marked not by steady accumulation of knowledge but by 'revolutions'. A consequence of this view is that we are not reaching an ever more complete view of how the world works; rather, we have 'good enough' theories to deal with pragmatic questions of critical interest.

The idea of a paradigm had an immediate appeal for social scientists for several reasons. First, it seemed to work to explain the seismic shifts in the ways in which social questions are explored. For example, the positivist view of research, which held considerable influence for

long periods of time, was not amended or adapted by an interpretive one, but turned on its head. Second, the idea of battling against a dominant paradigm seemed to sum up pretty well the process of arguing for new approaches to research or generating new fields of study or simply crossing discipline boundaries – feminist research being a good example of all three. Indeed, those arguing against existing paradigms could take comfort in the idea that there was a place for their work and it, too, might be valuable and, in time, ground breaking.

Kuhn offered a deeply original and engaging way – indeed, a paradigm-shifting way – of thinking about natural science, but left areas open to debate, for example, just how ideological were agreements between scientists and how important was the replication of findings. However the analogy between natural and social science should not be taken too far. While many social researchers battle against a dominant paradigm within their particular department or field, and some encounter outright hostility to certain methodological approaches when seeking funding or arguing a case to a dissertation panel, there has traditionally been a commitment to pluralism in the 'social sciences'. Indeed, researchers today are often described as working in a 'post-paradigmatic' age, in which there is considerable tolerance for competing approaches, and, indeed, there is some evidence for this when considering the range of content and methodology covered in the academic literature. Further, if there are research paradigms, it is not clear how they should be described. For example, it is common to talk of qualitative and quantitative paradigms, but this is a fairly trivial distinction; interpretivism and positivism are better thought of as paradigms but this does not provide a complete picture (see **epistemology**) or recognise the broad range of approaches covered within each. Perhaps the closest the new researcher comes to experiencing a paradigmatic view of research is the broad deductive framework often presented in research methods textbooks (e.g. Bell, 2010).

If we are living in a post-paradigmatic age, this does not mean that anything goes. Researchers need, as ever, to establish the ways in which they carry out data collection and the interpretation they put on data; they cannot pretend that there are agreed ways of doing either of these things. They can help themselves by understanding the traditions, rather than the paradigms in which they are working, and they can report on the tensions and difficulties as reported in widely used approaches (as examples, see **action research** and **grounded theory**). Working within a tradition gives the researcher

something on which to draw, but provides flexibility and 'room to breathe'.

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POSITIONALITY

Positionality refers to the steps taken by researchers to explain their 'position' in relation to their study, in other words, how the study might be affected by their own particular background, beliefs and values. This will apply across any 'field': educational research is carried out by researchers who were once at school themselves; linguists were, and are, users of language; market analysts are themselves consumers of goods and services. Positionality is always important but it becomes a more debated and sensitive issue when there is a greater asymmetry between the researcher and the researched. Here the researcher is facing not only problems of subjective interpretation but also gaps in background knowledge, which might affect the very execution of a project. Mistry *et al.* (2008), for example, discuss very openly how a physical geography project to be undertaken in the UK in collaboration with researchers in another country, Guyana, was compromised by insufficient local knowledge, raising both practical and ethical issues. In another example, Huisman discusses the tensions generated in her research with refugees in the UK and seeking to balance 'sometimes contradictory positionalities as a woman, a researcher, a friend, a graduate student, and as a person who was straddled between two classes' (Huisman, 2008: 372). Again, this provokes both practical and moral dilemmas; as expressed in the title of the paper, this left one respondent asking, 'Does this mean you're not going to come visit me anymore?' at the close of the project.

Having a position which is different to those being researched does not mean we are incapable of understanding, in the sense of 'make comprehensible', the experience of others. Indeed, as a general point, if we could not 'stand in another's shoes', then, outside of auto-ethnography, we might as well give up interpretive research as we will never be conducting research with people exactly like us. Positionality is important, because it helps us see the barriers and the limits on understanding.

Discussion of positionality remains a controversial area in social research. It is underplayed within the positivist tradition which either accepts the myth of value-free observation or at least accepts it is as a pretence worth maintaining. After all, natural scientists do not state their position when investigating atomic particles nor should social scientists when investigating people's behaviour. At the other end of the spectrum, postmodernist approaches to research sometimes explore at length the constraints of positionality and the impossibility of producing a value-free narrative. In between these two ends of the spectrum, most researchers struggle to find a comfortable midpoint, but are willing to be open about their background values and beliefs and to alert the reader to a possible slanting of the data in a preferred direction or, just as likely, an effort to overcompensate in the opposite direction.

It is impossible to provide a full account of the implications of positionality but the researcher can provide exemplars, explaining, say, the importance of past professional experience for appreciating the significance of certain actions. In other words, positionality is only useful if one's position is reflected upon, and articulated with respect to its influence in terms of the research. This avoids the charge made by some critics that accounts of researchers' personality and exercise of reflexivity are self-indulgent, even 'narcissistic'. Some have suggested that discussion of positionality can lead to 'delusions of grandeur' and self-glorification, and Troyna (1994) warned that it may be dangerous for novice researchers to 'lay themselves bare'. 'Hard-nosed' policy makers are often seen as having no truck with positionality when reading a report. To address this, the researcher should find out what they can about the expectations of the reader, or the particular reader, such as an examiner of a thesis, a peer reviewer of a paper or a project sponsor. Even those committed to in-depth discussion of positionality should appreciate a distinction between an investigation of one's own positionality as a lifelong personal project and the reader's interest in how positionality affects the conduct of a particular project.

Hitherto, the assumption has been that positionality limits our understanding of a particular context, but it is the fact that we have a position that enables us to make sense of a social situation. Observation and interpretation is necessarily theory laden and to do either without a position is not a neutral or value-free stance but is to exist in a state of mental disassociation and disintegration. Many practitioner researchers take advantage of their positions to inform their research, as indeed did Weber when using his personal

experience of Protestantism to explore early capitalist development (see **interpretivism**). Some researchers go further and use their ethical positions to self-consciously embrace what they see as universal values such as human rights, the right to the good society, reason and rationality (e.g. Carr and Kemmis, 1986, in **action research**), and many feminist writers (e.g. Harding, 1987) have argued that declaring a position leads to sounder research outcomes. There are positions worth embracing even while keeping a 'critical distance' from events and policies (Wittrock, 1991). Mortimore (2000) argues that researchers should 'ask difficult questions' and 'speak up for what we believe is right'. He cites the late Bishop Trevor Huddleston who described universities as the 'eyes of society'.

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POSITIVISM

There are many interpretations of positivism but the term is often used to describe a belief, first, that the world is capable of objective interpretation and, second, that social science should follow the methodologies and methods established in natural science. It is hence contrasted with **interpretivism**, which takes the world as capable of multiple interpretations and seeks to uncover the meaning that human beings invest in social activity. The word positivist is a misleading one, as it tends to conjure up someone who is very sure of themselves or even someone of a 'sunny disposition', but its

etymology lies in the verb to 'posit' – to put forward and by implication throw open to critical scrutiny.

The intellectual roots of positivism lie as far back as Plato and his conviction that there was an objective, even a perfect, order underlying the world, even if our understanding of the world was imperfect. Here, there was a special concern with mathematics and both Plato and Pythagoras saw mathematical structures as underpinning aesthetic judgements. A more recent, and common, point of reference for positivism is the Enlightenment, the term given to those eighteenth-century European intellectuals concerned to 'take on' dogma, tradition and metaphysical belief in the name of progress. Late-nineteenth- and early-twentieth-century reference points for positivism are Comte and sometimes Marx and Durkheim, though there are major differences between these thinkers, with Comte being the most explicit in his reverence of natural science and the scientific method. Coming closer to our times, a third reference point is the philosophy of logical positivism, a movement around the early and mid-twentieth century which argued that, to be meaningful, 'warrantable human knowledge' had to be capable of being verified. This could be achieved only through analytical or logical analysis but, more productively for the social sciences, through the scientific methods of observation and experiment. Logical positivism narrowed the scope of philosophy, dismissing questions of belief as unverifiable, and putting the focus on questions of logic and language.

Fast-forwarding to the present, there are few, if any, philosophers or sociologists who are explicit followers of positivism and probably no one who follows the rather idiosyncratic views of Comte. Rather, there has developed what Blaikie (2000) called a 'standard' view of positivism to signal a broad interest in developing cause-and-effect generalisations often on the basis of testing for statistical correlation. To achieve this, researchers need to treat concepts as 'real' objective categories (see **concept**) and accept that human behaviour can be explained, at least at the group level, by factors operating on the people concerned. Thus, positivism, or our positivist legacy, leads us to ask questions aimed at uncovering causality: What were the causes of the dot.com boom? What leads people to take up careers in public services? Is poverty associated with low social capital? In methodology, positivism often leads to large-scale casing, meta-analyses, deductive and experimental hypothesis testing. Positivists are more likely to speak confidently of a knowledge base (see **knowledge**). They generally adopt a quasi-scientific language: they *administer* tests; they consider *threats to validity* and *eliminate bias*; they write only in the third person.

Criticisms of positivism are not difficult to find. In practice, most would agree that social activity is more complex than the positivist view suggests and the idea that 'social science' should follow the procedures of natural science is undermined by ongoing disagreement as to how scientists actually carry out their work (see **paradigm**). There is little intellectual force behind the claims for positivism and it is common for research students and new researchers to dismiss the positivist approach in favour of an interpretivist one. There are, however, two major reasons why we should be more cautious than this:

- The first is that positivism is often presented as a caricature: positivists are people with a naive belief that social science is objective and are fixated on quantitative methods. This does not do justice to the spread of intellectual influences within positivism or the possibility for reflexivity on the part of positivists. Positivism provides a lens through which to view events, a limited one but a story as to how external factors influence human behaviour. Positivist research does not lead to law like **generalisations**, but it has been seen as providing 'fuzzy generalisations', ones that are useful to inform decisions about both policy and practice.
- Second, many anti-positivists borrow much more from the legacy of positivism than they seem to realise. Their research does implicitly discuss cause and effect; they arrive at reified meanings for concepts; they see themselves as contributing to bodies of knowledge; they believe they are offering trustworthy accounts of social activity. For some, it is enough that their research uses qualitative methods for them to describe it as anti-positivist – this is naïve.

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POSTMODERNISM

Postmodernism lacks a single overarching definition but has been applied to explain anything from the architecture of the Guggenheim museum in Bilbao to just-in-time manufacturing, the deconstruction of a tourist guide, the fall of the Berlin wall, the aesthetic appeal of Andy Warhol, why Google and Apple have become mega corporations. Any links between different applications of the term postmodernism are tenuous. However, there is an overlap in that

commentators, working within different fields, are trying to make sense of the world at a time when established or taken-for-granted ways of doing things have become unsettled, all this caused, in part, by almost anywhere, anytime access to information and the ceaseless movement of people and ideas. What this means for social research is open to question but there are pointers.

First, postmodernism is sceptical about 'big ideas', what Lyotard (1979) called grand narratives, such as the Enlightenment or Marxism, which advance universal propositions; extol scientific methods and empirical investigation; and make a claim to the possibility – at times the inevitability – of social and scientific progress. Postmodernism is critical of any notion of objective truth. Instead, ideas of universal rights and universal reason inevitably come down historically to questions of power (Bourke, 2011): we believe what we choose to believe and what it is in our interests to believe and we create the most extraordinary claims for the objective and scientific basis for those beliefs. Second, postmodernism deals with 'multiples': multiple interpretations of the world; multiple identities; and multiple roles. For example, if mass industrialism focused attention on a single identification with class, postmodernism is equally concerned with overlapping identities of gender, ethnicity, sexuality and age. If researchers have been confidently analysing texts for content, then postmodernism tells us that each text is intertextual and capable of myriad interpretation. Going further, postmodernism (or, more accurately, texts cited to support postmodernism) is unwilling to accept scientific rationality as a privileged form of knowledge (Latour, 1999). Scientific knowledge is ideological; science and scientists represent a view of the world but, as argued by Callon (1986) in his much cited account of scallop fishing in Brittany, France, when it comes to science 'anything goes'. In extremis, postmodernism is a critique of scientific rationality and Feyerabend (2010) advances the highly controversial view that a creationist account of evolution is as good as one based on natural selection if made with honest conviction.

In keeping with the very essence of the word, there is not a single reading of the implications of postmodernism for the conduct of social research. Those attracted to the notion of postmodernism will need to define the term, or at least discuss the traditions within which it has been used. They might too try to explain both the popularity of postmodernism and, in many ways, its decline, for postmodernism has become displaced by more explicitly technological terms such as the digital age, or offshoots such as post-postmodernism. Those

attracted to postmodernism might be expected to be particularly reflexive in the collection and interpretation of data and concern themselves with the difficulty, indeed sheer impossibility, of establishing 'truth'. Researchers may perhaps offer a series of narratives about a phenomenon rather than a single overarching text. Postmodernism will be sceptical of notions of causality, treating any idea of cause and effect as situated within a particular context, and they might consider triangulation as a fiction. Postmodernism will often seek out underreported perspectives and look for countervailing narratives, which might have been neglected because of positions taken by researchers in the past. Postmodernism may take a profoundly profane view of knowledge and will be critical of subject boundaries, instead arguing for a cross-disciplinary approach. However, those attracted to a postmodernist perspective will need to address some of the trenchant criticisms made of it: for example, that, as an approach, it is self-indulgent, takes a stance of contrarianism for the sake of it, and holds a puzzling commitment to scholarship, given the doubts expressed about its value. At its worst, though this is rightly contested, postmodernism is seen as denying the realities of oppression, colonisation, poverty and the universality of human rights.

The lasting influence of postmodernism, however, need not lie in a series of troubling and controversial texts on the nature of knowledge but in providing us with a 'habit of mind' to question the basis on which judgements are formed; to reject a sacred view of the established literature; to resist the top-down application of theory to a problem and to live with competing versions of events. Postmodernism questions on a scale rarely seen before the nature of judgement in social research. The classic texts of social science were at pains to establish that their work was not speculative or metaphysical but about systematic, painstaking reflection on data. Postmodernism challenges this every step of the way. Postmodernism should be treated as an invitation to revisit arguments over validity and trustworthiness, and attend to ideas of reflexivity and positionality. Postmodernism provides the provocation to develop a 'grown-up' view of social research in which we cannot hide the justification of methods and methodologies behind custom and practice; we have to argue each case on its merits. Postmodernism, furthermore, pushes us to renew a moral undertaking in research; if research is a matter of positionality, what do we imagine our moral commitment to be and how can we find the time and space to debate this?

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PRAGMATISM

Pragmatism has its intellectual roots in the work of US philosophers and polymaths Peirce, James and Dewey (e.g. Peirce, 1998; James, 1904; Dewey, 1930) and has been reinterpreted more recently, in particular, in the philosophical work of Rorty (e.g. Rorty, 1982). A fundamental tenet of pragmatism is that to know the meaning of a concept then we need to consider its practical consequences rather than to hold on to preconceived ideas. In its everyday meaning a pragmatic approach is one which takes a practical orientation to a problem and finds a solution that is fit for a particular context. At its most basic, a pragmatic approach is one which takes a practical orientation to a problem and finds a solution that is fit for a particular context. What this means for the conduct of social research is open to dispute but there are some pointers. For example, a pragmatic orientation to ontology is likely to be 'anti-foundational' in the sense of rejecting the notion that there is an objective basis for making judgements that are applicable across culture and time (Baert, 2005).

Pragmatism generates solutions which are 'fit for purpose' and these solutions will be generated in 'pragmatic ways'. Early pragmatists saw practice and theory as entwined: theory emerged from practice and could then be applied back to practice to create 'intelligent practice'. This is sometimes referred to as an abductive approach, neither induction nor deduction, but a constant process of generating and testing hypotheses. The coming together of theory and practice is captured in the much cited aphorism among action researchers that 'there is nothing as practical as a good theory', and, while pragmatism is strongly associated with **action research**, particularly drawing on Dewey (1930), a pragmatic approach is not confined to action research.

A pragmatic research approach is dismissive of dogmatic distinctions between quantitative and qualitative methods. Pragmatists welcome mixed methods; numbers give meaning to narratives and narratives give meaning to numbers (Johnson and Onwuegbuzie, 2004). While not identified as pragmatism, the early injunction by Glaser and Strauss that 'all is data' was a very pragmatic position (see **grounded theory**).

With the decline of 'dominant paradigms' such as positivism and the hypothetico-deductive approach, perhaps we are all pragmatists now (Onwuegbuzie and Leech, 2005). Few social researchers today are interested in fighting paradigm wars between positivism and interpretivism or want to argue the inherent superiority of qualitative and quantitative methods or vice versa. We have much in common, perhaps more than we realise; in practice, most of us are comfortable with 'fuzzy generalisation' or 'trustworthy interpretation'. Increasingly, it is accepted that there is always more than one possible interpretation of events and that there are both weaknesses and strengths in all methodologies and methods of analysis. There is further a broad agreement as to the practical and moral problems of the day and the ethical considerations concerning research. In this kind of 'post-paradigmatic' world it is very difficult to make judgements about social research that are not pragmatic, and in which claims to validity and trustworthiness come down to what Dewey once called 'warranted assertion'.

Nonetheless, there is a danger of overstating the level of consensus in social research and to misinterpret pluralism, the acceptance that the world can be seen from different viewpoints, with agreement on how we should see the world. Pragmatism offers a distinctive approach not a cosy middle in which we can all feel comfortable. Pragmatists need to explain the logic of their world view and to be aware of two connected criticisms: that pragmatism leads to a relativism, in which one political and institutional arrangement is as good as another; and that it focuses on 'what works' lines of enquiry rather than what might be or indeed what should be. Both are contested: pragmatists argue they are adopting a critical rather than an instrumental approach.

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QUESTIONS

A research question encapsulates what the researcher is trying to find out and provides the direction and shape for the research. The research question or questions provide the starting point for considering the research methodology (Table 1). Imagine, for example, the research into a social phenomenon such as urban rioting, something which reappears in most countries at intervals and has lent itself to a wide range of academic and popular interpretation. If we want to know about the *extent* of rioting, we might carry out indirect and direct survey; if we want to *understand* the experience of rioting, we need more ethnographic and case study approaches; if we want to, and believe we can, identify the *factors* that cause rioting, then perhaps a meta-analysis or systematic review might be helpful.

Research questions might well be framed by an external sponsor or shaped by the art of the possible (see **access**), but left to themselves researchers tend to ask the questions which suit, and very often expose, tacitly held ontological and epistemological assumptions. Hence, in the above examples, more positivist-inclined researchers might be drawn into the search for causality through surveys and systematic reviews, while interpretivists will seek to understand activity through narrative enquiry, ethnography and exploratory case study. Clearly, the asking of questions is influenced by one's position, for example, practitioner researchers are often drawn into questions which seek understanding of the contexts in which they work, and to which they have access.

A good research question is often one that is clear and doable; for example, 'Does community policing reduce rioting?' is undoable as

Table 1 Research questions and the rationale behind likely methodological approaches

Question	*Likely methodological approaches*	*Because the focus is on*
Are people born into lower social economic classes more likely to riot? Are males more likely to riot than females?	Systematic review, meta-analysis, large N studies, survey research	Generalising
Can I work with disaffected youth to provide them with greater social capital?	Action research	Changing a situation for the better
Can you tell me your story of the rioting?	Narrative, life history	Understanding meaning making
Does community policing help promote social cohesion?	Evaluative enquiry / experimental study / comparative study	What works (with a policy agenda in mind)
How have political leaders responded to rioting in the past?	Documentary analysis	Understanding the past
How is society creating despair and unhappiness?	Critical enquiry	Normative enquiry
What is going on here?	Ethnographic immersion	Understanding actions
Who is rioting and when?	Survey research	Describing the extent of the phenomena
Why do some people riot and with what consequences?	Grounded theory / exploratory case study	Understanding without preconceptions

there are too many outside factors that hinder any serious attempt to demonstrate causality. Narrowing the question down to, for example, 'Does community policing help social cohesion?' is much better even if it would set off considerable debate as to whether there are suitable operational measures to illustrate community or social cohesion (Newman and Ratcliffe, 2011). However, a research question need not be narrow or closed. For example, 'What is happening here?' may be the right question for an ethnographic enquiry, at least in its early stages, as it is a reminder to keep an open mind and to see the study as bounded in a particular time and place.

There is, or needs to be, a symbiotic relationship between research questions and methodology: the methodology must deliver the data to address the question, and as the questions change (as they often

will) the methodology must be reconsidered. It is important to rework the research questions during the course of a project; most of us begin by asking too many questions or ones which cross methodological and epistemological traditions. Most of us, too, end up with 'orphaned' questions, ones which were asked but were not, in fact, answered because the questions were too vague, there was too much to cover or the enquiry headed off into another direction. Research questions change over the course of a project, but this is not obvious to the reader as these reports are looking back on a project and offer clarity and a consistency which was unlikely to be apparent at the time.

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REFLEXIVITY

Reflexivity generally refers to the examination of one's own beliefs, judgements and practices during the research process and how these may have influenced the research. If positionality refers to what we know and believe, then reflexivity is about what we do with this knowledge. Reflexivity involves questioning one's own taken-for-granted assumptions. Essentially, it involves drawing attention to the researcher as opposed to 'brushing her or him under the carpet' and pretending that she or he did not have an impact or influence. It requires openness and an acceptance that the researcher is part of the research (Finlay, 1998). Reflexivity is not the same as being 'reflective': all researchers think about and make judgements about their data (for example, 'Do the data suggest a certain conclusion can be drawn?'); reflexivity steps further back and examines the person making the judgements ('Am I the kind of person who will be predisposed to believe that the data suggest this conclusion?').

Reflexivity and positionality are considered differently across research traditions. Positivism, in seeking to mimic the methods of natural science, adopts a third-person narrative and creates the myth of value-free research. This is not, of course, the same as saying the positivist researchers fail to reflect on data or that they are unreflexive; they may have thought long and hard about their position but have accepted the convention not to talk about it. Within a more interpretive approach, discussion of reflexivity may be encouraged, particularly in longer, more personal documents such as theses, though there is no agreement on the form that this discussion should take.

Reflexivity opens up dilemmas and challenges. These are more often addressed explicitly in situations in which there is a considerable distance in terms of background knowledge, behaviour and underlying beliefs between researcher and researched, but should be a general consideration for all research (see **positionality**). Increasingly, personal positions are seen in a wider context, that of social identity, so that, say, establishing rapport in an interview with a person of a different gender, ethnicity, age or sexuality goes deeper than presenting oneself as open minded and non-judgemental; there is something deeper at stake, which, no matter what you do, will come to define your interaction.

A reflexive examination should go beyond one's conduct in a research project and consider the positionality of the wider research discipline. This could cover what is taken for granted in how problems are defined, which research questions tend to be included or excluded, whether there is a restrictive dominant paradigm or even a liberal orthodoxy or cultural relativism in which 'anything goes'.

As with positionality, discussion of reflexivity has been criticised as narcissistic and self-indulgent, and it is important to remember that the reader may be a lot less interested in the researcher than is the researcher him- or herself. Discussion of reflexivity can, further, lead to a kind of paralysis (Johnson and Duberley, 2003) as each judgement becomes nested within layer upon layer of personal and disciplinary frames of reference. A way of addressing these difficulties is to bring discussion of reflexivity back down to the particular issues within the research; the researcher might want to exemplify types of interpretation rather than describe each and every reflexive judgement. Reflexivity should be embraced as a virtue, not a vice. Winter (1989) compares social research to the archetypal detective story in which the detective comes to understand something about him- or herself while solving the crime. This comparison is made in the context of action research, but is surely a broader comment on the humanist nature of reflexive judgement.

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RELIABILITY

Imagine a watch that is said to be reliable. It shows time at a consistent rate; it is calibrated against authoritative time-keeping apparatus; it will work in similar ways wherever it is used and will be read in the same way by whoever looks at it, give or take an acceptable margin of error. This intuitive sense of reliability underpins the use of the term in social science. A reliable measure is a consistent one: a question might be reliable if it is clear enough to be interpreted in the same way by different people; an application of a coding scheme is reliable if different coders record behaviour using the same category; an observation might be reliable if noted by more than one person.

Reliability is used in different contexts but in common is the sense of stable repeated measurement. For example, in relation to questionnaires, reliability can be assessed through repeat surveys of the same set of respondents – are responses similar? In a reliable survey, questions which address similar themes should be answered in a consistent pattern (for example, preference for a political party might normally, but not of course necessarily, match preference for that party's candidate for office). In relation to coding and the use of observation schedules, inter-rater moderation assists and assesses reliability. The search for reliability underpins the arguments for triangulation.

Reliability as a concept should be treated critically. A questionnaire may be as statistically reliable as anyone can wish, but if it is not addressing one's research question it lacks **validity**: no matter how accurately a watch displays the time, it is never going to be the right tool for measuring temperature. In applying triangulation, contrast may be as important as convergence. There is not a state of reliability, only greater or lesser degrees.

RESEARCH DESIGN

Research design is concerned with turning a research question, a hypothesis or even a hunch or idea into a manageable project. The design process will generally include: the initial formulation of the research questions to explore; a consideration of what kind of data are to be collected and how they are to be collected (i.e. **methodology** and **methods**); planning and reflecting on the sample (if the study is to be an empirical one) and the access and ethical issues involved with this sample; deciding how the proposed data are to be analysed; and considering how the research is to be presented and disseminated. Research design provides the link between a general

idea and the day-to-day, or week-by-week, planning with its associated times lines and Gantt charts. By way of analogy, an architect *designs* a new building and the clerk of works carries out the detailed *planning* and implementation.

The starting point for design is the question, or questions, that the researcher would like to address. Research **questions** encapsulate epistemological positions (see **positionality**) and they suggest certain methodological approaches. For example, if we want to know about the extent of a type of behaviour or activity, we might carry out indirect and direct surveys; if we want to understand how a phenomenon is experienced, we might need a more ethnographic or case study approach; if we believe we can identify the factors that cause a phenomenon, then systematic review might be helpful; and so on. However, a particular methodology does not determine a particular method or methods: there is a one-to-many relationship between methods and methodology.

Research design also needs to consider practical and ethical problems. **Access** lies at the heart of all 'real-world' research, and many projects that, in principle, are well designed have not got off the ground because of problems of access. Most empirical projects require 'gatekeepers', those who will let the researcher into the organisation, and many require key informants. In some cases, decisions on conducting fieldwork will come down to the art of what is possible. **Ethical** considerations cover the ways in which individuals will be treated, a particular concern in experimental studies; gaining consent and avoiding covert behaviour; and the integrity with which the data are analysed and reported. In some cases, for example, the study of gangs and extremist groups, the design process should consider in-depth issues of risk assessment and a consideration of researcher safety.

A key issue for all design is the flexibility of the project (fixed and flexible design are discussed very helpfully in Robson, 2002). For some, the research process has sometimes been depicted as a linear, logical sequence starting with the formulation of aims, then planning, collecting, analysing and interpreting data, and ending with conclusions and writing up (e.g. Bell, 2010, cited in **paradigm**). This is a broadly **deductive** approach with the aims and objectives of the research, if not actual hypotheses, clearly set out. The distinction between aims and objectives is a disputed one but generally it is accepted that fixed projects should set out, say, four or five aims, as the overarching purpose of the project. Objectives are more specific and suggest what will be carried out in the course of the research. Hence, a project aim may

include 'to understand why some young people leave school without qualifications' and an objective may be 'to provide a breakdown of academic qualification by gender and class'. However, the distinction between aims and objectives is not always clear cut.

In reality, however, the process of social research is messy and non-linear. In fact, this applies to all research: as the Nobel prize-winning scientist Medawar (1963) pointed out, *post hoc* portrayal of research as a clean linear sequence is a fraud; research is a mixture of 'guesswork and checkwork'. It is more realistic to accept that the process is one that involves 'going back' at intervals. As the project proceeds, researchers come to realise that the questions they are addressing have changed; they find that their sampling strategies are overly optimistic; they need more, or different, data; they need to draw on different literature; and so on. The only certain thing is that at some point the research has to stop and the report must be written, even if there is more to say and find out. However, research still needs to be designed, even if the design might draw attention to the exploratory nature of the research and what would be done in the event of certain contingencies. A structure for a research project provides an anchor and is, understandably, of key concern for external funders.

In summary, research is a messy business and it would be wrong to pretend otherwise. One of the most common activities in real research is compromise. We compromise over time spent, distance travelled, methods used, samples chosen, literature reviewed, words written and money spent. This is partly because it involves people rather than, as Michael Polanyi once put it, 'cobblestones': 'Persons and problems are felt to be more profound, because we expect them yet to reveal themselves in unexpected ways in the future, while cobblestones evoke no such expectations' (Polanyi, 1967: 32).

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SECONDARY DATA ANALYSIS

Secondary data analysis refers to analysis of data generated within other studies and made available to the wider research community.

A large number of data sets are available (see **surveys**), and very often publicly funded research will require researchers to log data sets with funding bodies. This is a service for other professionals and it also provides an audit trail of the research. Data, however, need to be carefully coded to protect anonymity and those accessing data are normally asked to sign an agreement to use them responsibly. The main benefit of secondary data analysis is obvious: it saves you, the researcher, the time and expense of collecting data for yourself. This can be particularly important when researching sensitive topics and/or hard-to-reach populations. Secondary data analysis has been carried out in many contexts (Bulmer *et al.*, 2000, provide very comprehensive coverage), some of which are discussed below:

- Large-scale quantitative data sets – say, household surveys, census data, social attitudes polling, intergovernmental data sets – are used routinely for hypothesis testing (see Blanchflower and Oswald, 2011, cited in **surveys**) and large N studies (see **case study**). Secondary data can also be used in conjunction with primary data, for example, as part of a **triangulation** strategy enabling comparison across contexts and/or time.
- Secondary data can be revisited or restudied in order to generate new conceptualisation of a topic. An interesting example here is Fielding and Fielding (2000) who access qualitative data on long-term imprisonments in a study completed many years earlier in order to reconceptualise the experiences of imprisonment and comment on the changing nature of sociological enquiry. One significant aspect of the study is the opportunity provided to access data in a highly controlled context and indeed the original study was cut short by official intervention.
- It is, of course, possible for researchers to revisit their data, perhaps with different colleagues, in other words, to treat one's own archive as secondary data in order to extend the reach of the original study. Dilley *et al.* (2011) report on an attempt to do so in a study of cognitive counselling in the context of safe sexual practice. This makes good sense, given that only a portion of the data, so laboriously collected in many a study, is the subject of initial reporting.
- In rare cases, and with due regard to ethical issues, secondary data analysis may encourage a new team of researchers to trace the original respondents, thus creating a new study but one with a longitudinal perspective. An imaginative example concerns the retracing of young people in Leicester, UK, who took part in a

study of the young people's early employment. Forty years on, the same respondents were traced as they began to make the transition from work to retirement (O'Connor and Goodwin, 2010). The study is richer for this longitudinal perspective, even if considerable methodological and ethical issues arose.

In principle, there is little to be said against accessing secondary data but, in practice, there are problems of access, ethics and, of course, interpretation. The underlying challenge is to put oneself 'in the shoes' of those carrying out the research when one has missed the arguments as to validity and reliability; the discussions of the significance, or otherwise, of non-response rates; the debates about the framing of interview schedules, and so on. The researcher sees the 'tip of the iceberg', the data, and misses what lies underneath; it is rarely easy to feel one's way into the data. Secondary data may have been collected some years back and this raises further problems of interpretation. The data need to be handled tentatively for there will have been large-scale changes in, say, occupational opportunities, technology, levels of health care and social attitudes over even a short time. Data sets are becoming increasingly available via the Internet, which increases the opportunities for carrying out secondary data analysis, but there is a danger here that research might be skewed towards what is available, or what is easily available, rather than what is relevant.

Secondary analysis of qualitative data is less frequently undertaken than analysis of quantitative data (Hammersley, 1997). This is not surprising as researchers may be reluctant to archive interview data, and interpretive researchers are, it appears, more reluctant, in principle, to visit data archives. It is not easy to 'recover context' with interview data, particularly if working only from a transcript. Some researchers become judgemental and frustrated about the direction a reported interview took. However, this is often unfair: the data were not collected with an outside researcher in mind and an outsider will not have access to the dynamic established between interviewer and interviewee.

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SOCIAL SCIENCE

Social science is an overarching term to cover a range of subject areas or disciplines concerned with social activity, including anthropology, business, communication studies, criminology and law, economics, education, politics, sociology and, to an extent, geography, history, law and psychology. It is accepted in many countries and institutions as a part of the nomenclature of academia, but is a source of controversy when it suggests that social research *looks like* natural science.

Some describe their research as a social science in order to make explicit their commitment to the epistemology, methodology and method of natural science. This appears to be the logic in some of the nineteenth- and early-twentieth-century use of the term by, for example, Marx and later Durkheim. However, we should be cautious about reading too much into this; social science may have been used metaphorically, rather than literally, in order to differentiate their research from 'metaphysical', 'speculative' or, indeed, popular everyday explanation (Baert, 2005). A more explicit argument for basing social research on the methods of natural science was articulated in the middle part of the last century through the influence of logical positivism (see **positivism**) leading to the wide-scale adoption of the 'hypothetico-deductive' method. However, it has been fairly consistently argued since then that social research differs from natural science in that social activity requires interpretation. Of course, it might be that we have got the wrong idea of natural science: it is not as 'objective' or value free as imagined. For example, Heisenberg's uncertainty principle in 1922 suggested that the act of 'observing' or measuring a particle affected its very movement and position; Popper showed that we can never definitively prove or verify a scientific theory; Kuhn's work on paradigms suggested that scientific thinking was in a manner 'ideological'. Accounts of the 'real-world' work of scientists – Watson's (1968) story of the 'discovery' of the double

helix is often cited as an example – are shocking for those who like their science deductive and objective. In short, natural science, rather than offering a 'gold standard' of objectivity, might bear more of a family resemblance to social research than once thought.

Appealing as it is to see an epistemological unity between natural and social science, there is only so far that one can take this. Much everyday 'normal' science takes place within a framework of replicable anywhere, anytime laws and agreements as to the nature of theoretical explanation. It is true that theories are tentative and theories are overthrown (see **paradigm**), but natural science often engages in repeatable observation in a way that is inconceivable in examining social activity. In 2012, a news story dominating the popular and scientific press concerned the observation of particles travelling beyond the speed of light within the Large Hadron Collider at CERN (the European Organization for Nuclear Research). More than 15,000 measurements were taken to explore this finding and outside teams of scientists invited in to replicate the results. In social research, we can say that, all other things being equal, we might expect some phenomena to be repeated, but all other things are never equal, let alone 15,000 times. We can invite outside researchers to look at our work and provide them with audit trails to show the steps taken to collect and interpret data, but it is fanciful to imagine anyone repeating these steps will end up with exactly the same conclusions (see **secondary data analysis**).

Whether a researcher wishes to use the term social science or not is in part a matter of custom, and might not signify very much. However, it does have a kind of metaphorical appeal for some, though one that will be resisted by others. While there are similarities between natural and social science, both to a large extent have to defend their claims to warrantable knowledge in their own right.

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SURVEYS

Survey research refers to the systematic collection of data from a survey population. Most survey work deals primarily with

quantitative data, for example, covering levels of agreement and disagreement with particular propositions, the frequency of certain behaviour and knowledge, and awareness of events, though most surveys also contain open-ended questions. The point of a survey is to find out 'how many' feel, think or behave in a particular way, and surveys provide the general picture relatively quickly and easily. However surveys can be, and are, used for exploratory purposes and hypothesis testing, as well as descriptive reporting.

Surveys are carried out routinely by many public and private organisations; for example, a survey may shed light on the impact of a policy, gauge the demand for a new product or simply measure awareness of a particular issue. Surveys have been held throughout time but took on a new importance in the middle of the last century with a realisation that, with mass marketing, mass communication and mass electorates, 'elites' needed to know much more about the 'common' man or woman. This gives a democratic veneer to survey research but there has always been a tension as to whether the data are there to help an institution or organisation become more responsive or to help it better mould public opinion, as critical theorists have argued. Aware of these issues, some researchers take an emancipatory approach to surveying and see it as an opportunity to raise awareness of issues (e.g. Minkler *et al.*, 2010, as reported in **collaborative research**). Collaborative projects have made use of visual methods; an innovatory approach here concerns 'self-directed' photography carried out by city-centre residents in the UK in order to produce a visual survey of an urban environment (Moore *et al.*, 2008).

Surveys may be used in conjunction with, and cross-referenced against, other available data such as national census data, surveys of similar populations and surveys carried out in different countries. Indeed, survey research may be exclusively concerned with **secondary data analysis**. An interesting example here is Blanchflower and Oswald (2001) who use data on reported levels of happiness in several international surveys and cross-reference these against economic and even medical data. This allows the researchers to describe how happiness has been reported across time and location and develop hypotheses as to what contributes towards perceptions of happiness.

While primarily interested in how respondents report their attitudes and behaviour, researchers may also collect observation data when carrying out face-to-face surveys, and they may inspect documents such as files, receipts, participant diaries, bank statements and so on, depending on the nature of the survey. Researchers may also take away physical data. For example, in a survey of HIV infection in

South Africa, householders were interviewed and, where consent was obtained, a blood sample was collected for HIV testing. This obviously created important ethical and practical issues, which the report (Shisana *et al.*, 2009) deals with in detail.

A great deal has been written on the design of questionnaires. Designers need a clear awareness of the concepts they are researching and the kinds of questions that will provide an operationally valid means of measuring it (see **deduction**). Straightforward closed questions should start off the questionnaire, leaving the open-ended and 'matter of opinion' questions to the end. Several types of scale can be used, the merits of which are discussed at length in most research methods books and widely available online resources. Typical advice is to ask unambiguous 'value-free' questions, to appreciate that people will not invest much time in completing surveys and to present a survey as attractively as possible. The merits of face-to-face, telephone and Internet surveys have been discussed, and clearly background social cultural understanding of one's population is important here (see also **interviewing**). Unlike the interview, the survey is fixed, data collection follows a script not an improvised performance, and a great deal of time needs to be invested in clarifying exactly what the researcher wants to find out and how to measure it.

One of the key issues in using a survey involves sampling. Decisions on sampling are difficult to make without adequate knowledge of the full population from which the sample is taken. Sampling might be random or a definite decision might be made to stratify the sample according to certain criteria, e.g. size, region. The problem of representativeness is therefore as acute for survey methods as it is in case study or interviewing. Response rates are another challenge. To increase response rates, researchers will need to consider the appeal of the survey and they may provide some reward such as a small gift or entry to a prize raffle. Rewards seem to have symbolic importance beyond their material worth but there is dispute as to their impact. Surveys raise ethical questions about who can be approached, how they can be approached and issues of openness and confidentiality. There are, for example, limits on how many reminders are sent out to respondents and questions of anonymity if a survey is completed online.

Descriptive statistics are used to describe the basic features of the data in a survey. They provide simple summaries in figures and in graphical displays. Typically, descriptive reporting includes the distribution of responses either in raw totals (percentages or numbers) or as grouped by age ranges, gender, ethnicity or other criteria. Other

descriptive reporting includes the central tendency (the mean, median and mode) and the dispersion (the standard deviation). The data should be reported as clearly as possibly; supporting text can draw the attention of the reader to noteworthy aspects of the data but it is pointless to replicate in text what is already clear from a table or chart, and excessive or trivial displays of data should be avoided. Measures of correlation, described technically as a descriptive statistic, can be a simple but powerful means of investigating relations within data. At a more sophisticated level, researchers may employ inferential statistics, tests which go beyond the immediate data, to infer likely associations between variables. These are covered in depth in a plethora of research books (e.g. Connolly, 2007, offers a critical introduction) and an increasing number of interactive online guides. The key principle within inferential statistics is that a comparison is made between the data as collected and the data as they would be if distributed 'by chance'. Thus, inferential associations are speculative; they deal with probabilities not matters of fact. Key concerns in statistical analysis are significance (a statistically significant association, say, between class and education outcomes is one that is very unlikely to have happened by chance) and the null hypothesis (the finding that there is no relationship between two measured variables). Significant associations are precisely ones of association not proof of causality (see also **deduction**) and failure to establish significance does not mean the relationship is insignificant in the ordinary use of the word. In a similar way, the null hypothesis does not disprove that an association might be possible in other contexts.

Surveys are lightly dismissed by their critics on various grounds: they treat as 'real', concepts and categories that are abstractions (e.g. happiness, learning styles, intelligence) and socially constructed (e.g. ethnicity); associations are reported as showing cause and effect when they may be merely 'constant conjunctions' (see **causality**); the reporting and the investigation of non-response rates often seems cavalier (Werner *et al.*, 2007). Surveys are seen as excessively **descriptive**, though this need not be the case and, in fact, the descriptive approach may be very useful. Surveys are often strong on technical measures of **validity** and **reliability**, but fail to address the situated nature of participant responses and make naive assumptions about the accuracy of reported behaviour as against actual behaviour (see **observation**). Survey researchers may forget how superficially many of us take the completion of surveys or even how easily manipulated the respondent can be – as anyone who has designed or completed a student satisfaction survey will surely know.

Many of these criticisms of survey, however, should be more often directed at how the data are 'translated' in popular reporting rather than the survey research itself. Many researchers take great care in the design and piloting of surveys; they are explicit about 'threats to reliability and validity'; appreciate the difficulties of categorisation of respondents (e.g. Burton *et al.*, 2010); and are tentative in their interpretations. In good survey research, researchers have a close relationship to the data: they understand how the questions were generated, are aware of the problems exposed in piloting, and they can make predictions about the likely associations within the data which provide a credibility check on the plethora of descriptive and inferential statistics generated using software packages. Surveys represent a powerful means of generating data in their own right but may be considered as part of a mixed methods strategy: the survey typically 'goes wide', while interview data 'goes deep'.

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THEORY

There are several associations made with theory and these tend to differ according to whether one is working within a **deductive** or **inductive** tradition.

Within a deductive approach, theory is used to guide the conceptual framework of the research, leading to hypotheses that are to

be tested. For example (and the examples below are taken from a single field, that of educational technology), Daymont and Blau (2008) discuss the literature on online learning and are able to generate a hypothesis that 'controlling for measures of students' academic ability, the final course grade of students in online sections will not be different than the final course grade of students in traditional sections'. This hypothesis was then duly tested through an experimental approach and it was found that the online group did indeed perform as well as, but not better than, face-to-face groups. The contribution of theory in conducting the research is to develop the conceptual framework, though theory is understood only in a loose sense of empirical reporting of associations of events. The contribution of the research to the wider literature is confirming a hypothesis in a new underreported area.

Theory can be more ambitious than in the above example. For example, Hung *et al.* (2005) explore the idea of 'community of practice' (in brief, this is concerned with how individuals reach agreement about procedures and what counts as relevant knowledge through social negotiation) in their study of teachers of technology in Singapore. Community of practice sensitised the researchers to the importance of negotiation and they were able to generate an amended model in order to understand the data in their study of ICT Heads of Department in Singapore schools. Their contribution to theory is the application of a model in a cultural context that was not conducive to collaboration. They are testing the limits of the application of community of practice.

Another example of the application of theory is supplied by Johannesen and Habib (2010). They use actor network theory notions of inscription (indications as to how a product might be used) and translation (the moment when the identity of actors and the possibility of interactions are negotiated) as a frame of reference for analysing the use of multiple-choice tests in three faculties in a university in Sweden. Here actor network theory helped the researchers understand what happened and the consequences for what happened, rather than explain what caused something to happen. In a contrasting, and final, example, Blin and Munro (2008) use activity theory as an analytical framework to consider the take-up by staff of online learning in a university in Ireland. The activity theory framework (a set of 'interlocking relationships' between subject, object and tools bounded by a system of rules, community and division of labour) was used to show the disruptive character of technology and to explain the difficulties innovators experience in

trying to use technology to support less 'transmission' methods of teaching.

These examples are all taken from the same field, but similar variations in the contribution of, and contribution to, theory can be seen in any area of study. Theoretical frameworks, further, provide the bridge between beliefs about epistemology and ontology, and the practical analysis and interpretation of data. However, a problem, of course, with any theory, and perhaps universal theories in particular, is that they can be applied whether or not the data fit: to paraphrase the old saying 'with a hammer every problem looks like a nail'. For the researcher with a theory of community of practice, every problem appears a problem of community; for a researcher with an actor network theory, every problem is one of translation. The explanatory potential of theory is not in doubt, but the case for applying a particular theory is not often critically reviewed, and, it can be added here, once we take up a theory, we come strongly to identify with it: a theory is for life.

For these reasons, some will take a very inductive approach to theory and seek only to generalise bottom up from the data in front of them. This is the approach taken in **grounded theory**: the job of classifying and interpreting data begins with the data, and not a handed-down conceptual framework. This, too, is the logic of much of the reporting of **action research** projects. The value of an inductive approach is that it stays very close to the data even if its critics see it as time consuming and localised. Inductive theory may be valued for particular reasons; for example, in its original conception, grounded theory derived its power from the labelling of phenomena that were hidden from the actors concerned. However, a grounded theory approach does not rule out modelling or indeed comparison with the wider literature. Going back to the context of educational technology, Cartwright and Hammond (2007) borrow from grounded theory to look at the phenomena of 'fitting ICT in a primary school' in the UK and present a framework of causal/intervening/contextual factors alongside a consideration of the strategies used by teachers and the consequence for those concerned. This kind of modelling may improve the transferability or relatability of findings, even if it does not provide generalised 'formal' theory.

Decisions in regard to inductive and deductive frameworks derive from epistemological assumptions but may be influenced by particular contexts. In some fields, there are ample theories, and, if they are sufficiently well developed, then it would be odd not to at least consider them in shaping research design and data collection. In other

fields, there may be a shortage of suitable theory, or such theory may be extremely tentative, implying a more exploratory approach. Moreover, there are matters of temperament to consider – some researchers identify very strongly with the requirement to generate theory, while others are very reluctant to do so. However, inductive/deductive analysis need not be one thing or another – almost all research is going to undertake a consideration of theory in the light of the data and vice versa. Thus, theory generation is a more abductive process than often suggested and theorisation at some point requires an 'aha moment', as the relationship between and within the data suddenly becomes clear. These kinds of cognitive leaps are – borrowing from Mills (1959) – sometimes referred to as the 'sociological imagination' and enabled when one is immersed in the data but able to look beyond it to wider conceptual categories.

Theory then matters because it provides a lens through which to view phenomena, as it involves abstracting from data and helps make research generalisable or at least relatable. A theoretical lens does not give the complete picture; it does not provide verifiable proof, but it helps us decide what to look at. At a viva, research students are often asked what is their contribution to theory. One way of answering is to explain how theory was used a priori (in advance of the research) to inform the question, the design and the framework of the findings. A contribution of the research may be to confirm the theory, assess its limits, provide a reworking or amendment of the theory or indeed to argue for its replacement altogether. Researchers might also want to talk about theoretical contribution at the level of methodology or research approach – this is too little commented upon. Very often the purpose of theory is seen as exposing causality but this is not universal. Instead, the aim of theorising might be to understand the meaning invested in events and, to some extent, to give voice to these meanings and to make comprehensible the actions of others. A theory may be a concept, a naming of phenomena, an ideal type, a thick description of an action, a narrative as well as a model.

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TRIANGULATION

Triangulation is a term used in different contexts (Denzin, 1997) but has come to be associated most clearly with the use of more than one method for gathering data and an explicit concern for comparison of different sets of data. However, researchers also talk about triangulation of data over time (for example, re-interviewing the same respondents); triangulation of sources (for example, seeing how the same event is described by people with different roles); and triangulation of investigators (for example, comparing the responses made to different interviewers, especially in the context of open-ended interviews when the interviewer may impact on the interview more than in structured interviews). Another context for triangulation is the analysis of data from different theoretical standpoints, for example, interpreting the same data about workplace learning through a community of practice perspective and then a traditional apprenticeship model. Yet another possible context for triangulation is comparing findings in one study with those in another – though this might come under the label of external validity. Respondent validation might also be considered as a kind of triangulation in which the researcher's interpretation of data is compared to that of the respondent.

The term triangulation is borrowed from surveying and hints at a process of reaching accurate measurement through comparing a set of readings. However, this is a misleading metaphor for social research as researchers do not use the same 'tools' to collect their data, and each method of data collection carries within it varying assumptions about epistemology (Blaikie, 1991). Nonetheless, consistency within data can improve the credibility of findings – for example, if respondents are saying the same things in different contexts at different times, then, in a common-sensical way at least, the credibility of the findings is

improved. However, there should not be an a priori assumption that consistency will be found or that consistency is a good thing. Imagine carrying out workplace research and finding a manager who describes him- or herself as accessible to those he or she manages. The same manager may be seen by those working under him or her as inaccessible and overbearing. The interviewer can go back to the manager and seek examples of accessible behaviour but, unless there is a deliberate 'deception', there are always going to be varying interpretations of a behaviour, not reliable versus unreliable accounts. There is not a single account of an event and there is often a mismatch between **observation** and reporting of behaviour. Contrasting findings should not glossed over: they are as worthy of comment as consistency.

It is very difficult to argue that triangulation should not be employed in principle (Hammersley, 2008). There are, however, practical challenges; getting additional sources of evidence involves more time and expense and there may be ethical problems which rule out certain methods. Researchers should acknowledge the value of triangulation but triangulation should not be sought in a mechanistic fashion. Researchers should feel able to consider contrast and complementarity, as much as consistency, and perhaps use triangulation as part of an iterative research strategy (Modell, 2009). They should feel able to critique the assumptions underlying its application.

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TRUSTWORTHINESS

Trustworthiness has become a term used within 'qualitative' and mainstream interpretive research in order to describe the strength of the claims to knowledge the researcher is making. In choosing to use this word, researchers are rejecting the positivist connotations of the

word **validity** and are focusing more on the transactional relationship between reader and researcher. But what is trustworthy?

Trustworthiness makes reference to the integrity of another individual. A trustworthy person is someone you can depend on and have confidence in. Trust is established over time; people have acted as they said they would in the past and we have come to expect them to do the same again. Someone we trust will not cause us harm. To trust someone is to make yourself vulnerable and trust is not to be given lightly. Betrayal of trust is harmful and can feel personally devastating. Trust pervades the ethics and the conduct of research.

Establishing trust between research and reader is not straightforward, as it needs to be done at a distance. As a reader, we might think an account is trustworthy if we have confidence in the text and we are willing to lay ourselves open to an argument. A trustworthy account is worth paying attention to (Lincoln and Guba, 1985). Trustworthiness can be established through the marshalling of evidence. In particular, a trustworthy account is one that is confirmable, credible, transferable and dependable. These terms are capable of varying interpretation but confirmability is generally taken as a measure of how well the findings are supported by the data. This may be demonstrated, for example, by the use of member checking, peer review and participant validation.

Credibility is strongly related to confirmability, for example, credibility is enhanced if the researcher has had prolonged engagement with participants. Transferability refers to the degree to which the findings of one's enquiry can apply beyond the bounds of the project (see also relatability within **generalisability**) and may be undertaken through comparison with other studies. Dependability considers the process of data collection, data analysis and theory generation, and is often evidenced by an 'audit trail'. Theoretically at least, another researcher could follow the steps taken in the original study. A trustworthy account follows systematic and rigorous procedures; it does not represent the truth of a situation; there is no single truth to describe, but the account is worth paying more attention to than one constructed on everyday observation or anecdotal reportage.

The concept of trustworthiness has been discussed in many research reports. An example is that of Shenton (2004) in writing about his own doctorate research on children and information handling. Here, for example, credibility is seen as enhanced by the extent of data collection and the use of peer review and member checking, while transferability is demonstrated by creating an audit trail that is available to other researchers. Issues of dependability and confirmability

are addressed through an independent audit of the research by a competent peer.

Trustworthiness is an attractive word, not least because it seems to replace something hard edged, validity, with something interpersonal. Trustworthiness shifts us from discrete 'states' ('this is valid' / 'this is not valid') to degrees ('this appears credible', 'this is more credible than that'). However, the concept of trustworthiness is not always understood in the same way. In some accounts, validity and reliability have been dropped as terms but much remains the same. For example, credibility may map on to internal validity; transferability on to external validity/generalisability; dependability on to reliability; and confirmability is seen as synonymous with objectivity (Hoepfl, 1997). In other accounts, a more radical notion of trustworthiness is implied. For example, Williams and Morrow (2009) talk about the integrity of data as an alternative to dependability and see that striking a balance between participant meaning and researcher interpretation necessarily raises issues of reflexivity.

When many researchers talk of trustworthiness, they generally accept that an external reviewer is able to make detailed judgements about the quality of their research. They assume that agreements on meaning can be reached between, in the first instance, researchers and participants and, later, researchers and external readers, notwithstanding different positionalities and relationships to the data. Koro-Ljungberg (2008), among others, disputes these assumptions, or at least wishes to problematise them, by suggesting there are three dimensions to assessing validity or 'validation', which are distinctive in interpretive research. The first of these is 'interconnectedness' between reality and subjects – in other words, researchers should consider how effectively they represent participants' reality and be ready to critically review their interpretations through the exercise of 'reflexivity, openness and epistemological awareness'. Those external to the research may be let into the process of negotiation between researcher and participants but need to realise that they were not there when knowledge was being created, so all they can do is offer a new dialogue in the continuing 'construction of reality'. The second requirement in interpretive research is to present knowledge creation as a process not an event; validation should show the researcher's changing interpretation of data and should make clear that there are other versions of events possible and there will be more in the future. The third requirement is a commitment to pluralism and to interpret the data from different viewpoints. Hence, in this more forceful critique of validity, questions of positionality and reflexivity are pushed to the

forefront; any notion of there being a unitary interpretation of a text is disputed; any understanding of knowledge is provisional; reaching a shared understanding between those outside and inside the research is problematic.

Validity, trustworthiness or something altogether more radical? Whatever choice is made, researchers need to recognise that there is not an agreed set of criteria with which to assess the strength of the claims made in a research report. Researchers need to choose, or create, a vocabulary and a framework based on an epistemological stance. **Interpretivists** will have a special concern for interconnectedness and pluralism; **positivists** will be happier discussing traditional notions of validity and reliability. Within an interpretivist tradition, any claims made about knowledge will be provisional but this is not the same as 'anything goes'; research needs to be judged by something and there are ways of making explicit how, for example, meaning was negotiated between researcher and researched. In addition to these general considerations, researchers need to understand particular research traditions, for example, the importance of constant comparison as a means of establishing credibility and confirmability in grounded theory; the place of interconnectedness in action research; the importance of moral integrity in feminist research.

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UNIT OF ANALYSIS

Unit of analysis refers to the focus of attention in a study, for example: Who are the people being studied? In what context are they being studied? What data are being collected? A unit of analysis is defined by a research question but in many cases a unit of analysis may shift during the life of a research project. In most cases, unit of

analysis can be replaced by other terms such as focus of attention. However, unit of analysis has a particular meaning in the context of **content analysis** and refers to the ways in which texts are broken down for examination. For example, a unit of analysis could be at word or sentence level or, as often the case, 'chunks' of meaning.

VALIDITY

Validity has a wide range of meaning both in everyday speech and within social research. A valid argument may be one that is logically true (see **deduction**) or, with less certainty, a valid argument is a strong one and supported with convincing evidence. Validity might also be a sign of legal acceptability, such as a valid licence of one kind or another, implying validity/invalidity is an either/or state. Validity has a range of meaning in social research too. For example, validity may be used as a general term to discuss the fit, or lack of fit, between an interpretation of data and the data themselves, or it may be used in a more technical sense, for example, a measure of correlation between predicted and recorded data. Validity is often contrasted with reliability. **Reliability** represents the consistency of the measurement; validity considers the appropriateness of the measure. By way of analogy, a thermometer may be a very reliable measure of temperature but not a valid instrument for measuring wind speed, for which, say, manual observation of the rotation of a child's windmill may be much more valid but much less reliable. Validity has been discussed in several contexts including:

- Construct validity. This focuses on whether the methods used address the constructs being researched. This will almost certainly lead into a consideration of how the construct has been used in past research, for example, how the 'construct' of intelligence has been reported over the years and the different tests of intelligence that have been used. The researcher will then have to consider which measures or tests are seen as valid and what evidence has been put forward concerning claims to validity. Content validity implies a willingness to look critically at the construct – Is it a meaningful one? What are the problems of 'bias' in testing? Where have tests been generated and where have trials been carried out? This takes in a wider consideration of fitness for purpose as Williams and Cappuccini-Ansfield (2007) consider in looking at student satisfaction surveys in UK; they ask the fundamental questions of 'What do we want to know and measure about

student satisfaction?' and 'What do we need this information for?' in assessing these surveys. The researcher also needs to consider construct validity – put simply, how well findings measure up to expectations. An example here is a study of 'pathological behaviour' within video gaming (Gentile, 2009) in which a degree of correlation between exposure to gaming and the kind of behavioural outcomes expected from that exposure are taken as indicators of construct validity. Content and construct validity are not the same thing and a survey may have very high construct validity but low content validity, in some ways mirroring the tension between valid and reliable measurement given earlier.

- Ecological validity. This often refers to the degree of fit, or distance, between a simulated context and 'the real thing'. For example, game theory has explored constructs such as trust and cooperation in simulated contexts but real-life behaviour may differ, reducing the ecological validity of the simulation. As seen earlier (see **experimental research**), there is a balance between creating the ideal experimental conditions and maximising ecological validity (Roe and Just, 2009). Ecological validity is closely tied to predictive validity: Is what is said or done in one context a valid indicator of behaviour in another? For example, if asked, we might *say* we would offer help to a stranger in distress but would we *do* so in practice?
- External validity. This refers to the degree to which the findings in one study are generalisable to other contexts. In survey work, external validity considers how far the data from a sample are representative of a wider population and threats to external validity could include sample size, representativeness of the sample and particular contextual conditions in which the survey was carried out. However, in a more general sense, external validity might consider how far the findings in one study match the wider literature and lead into a discussion of triangulation and a consideration of a claim to **generalisability**. While the researcher may speculate on external validity, it is also the job of other researchers to test the external validity of research by investigating reported associations in new settings.

There are challenges in using the concept of validity. The first is to keep in mind that the really important question is the 'internal validity' of the research. This covers the logic of the research; the clarity with which questions are formed; the fit of methodology and methods to the research questions being asked; the marshalling of

evidence in support of propositions. Often researchers address validity in a mechanistic way: they address the statistical measurement of construct validity; they discuss threats to validity, including the take-up rates of questionnaire surveys, bias in ways questions have been structured, and the limitations of statistical testing, but miss the bigger picture regarding the 'warrant' (Toulmin, 1958) or the claim to knowledge they are making. The warrant is about the conclusion being drawn from the data rather than the technical validity and reliability of the data per se (Gorard, 2002).

A second challenge regarding validity occurs if working within a more interpretive tradition. The problem here is that validity has its roots in **positivism** and, while, for example, it is possible to talk about the validity and reliability of an interview, this is very odd vocabulary to use if seeking to describe the interview as a 'reflexive negotiation of meaning', or a 'narrative performance', as some interpretive commentaries would like to do. Not surprisingly, researchers have refashioned the idea of validity for their own purpose, using terms such as descriptive and interpretive validity to consider how far their accounts are complete and interconnected to the lives of the people being studied (Miles and Huberman, 1994, cited in **analysis**). Others have introduced new vocabulary. For example, the early work of Glaser and Strauss (**grounded theory**) discussed 'verification' of hypotheses, in the context of constant comparison of data and theoretical sampling, and there has been increasing use of terms such as '**trustworthiness**', 'validation' or the more general idea of 'warranted assertion'. This provides a distinctive vocabulary and is often more helpful for both the researcher and the reader.

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VISUAL RESEARCH METHODS

The essential point behind a discussion of visual research methods is to recognise the value of images (pictures, film, multimedia, photographs, cartoons, signs, symbols or drawings and so on) in social research. There are, of course, distinctive fields of research that have a particular focus on images and these include visual ethnography, visual anthropology and visual sociology (see Chaplin, 1994; Hall, 1997) in which classic studies include Bateson and Mead's (1942) study of Balinese 'character' and Worth and Adair's (1972) anthropology of the Navajo culture. Bateson and Mead used photographs they had taken during the course of their fieldwork as a means of presenting their ethnographic study set in the Indonesian island of Bali. They felt pictures might better convey the 'wholeness' of Balinese life and enable the reader to describe everyday life, including symbolic rituals such as marriage, funeral arrangements and tooth filing as a rite of passage, which would be difficult to describe otherwise. A more participatory approach was adopted in the later study of North American Navajo people. Here two ethnographers, Worth and Adair, who had complementary interests in film making and academic ethnography, worked with Navajo youth in Arizona, USA, to enable them to produce their own films of, in a broad sense, documentary nature. One motive of the researchers was to represent in film the distinctive Navajo conception of continuity and time. Worth and Adair discuss many of the issues, including their own roles, in developing participatory research of this type in an accompanying text.

Visual methods constitute a fascinating area of study in their own right but visual images are now of general concern to nearly all social researchers (Banks, 2001; Rose, 2007). Images are increasingly used in mainstream research in three ways: for generating data; as data; and in reporting data. In the first category, images are used to *generate or gather* data when they are part of an elicitation process. Thus, during interviews, researchers may use drawings, photographs, or video (with or without audio) to elicit an interviewee's views or conceptions; for example, Gold (2007) describes how he used his own photography in studies of an immigrant community to establish rapport with respondents, to show his interest in the locality and to stimulate discussion. Equally, elicitation could be achieved with a drawing or cartoon or even graffiti; Prosser (1998: 124) gives the example of photographs being shown to teachers in a secondary school in order to explore their varying reactions to 'Pupil Graffiti'. Images can be used as a stimulus for discussion in focus groups (as in the sibling matching

exercise described by Mason and Davies, 2011, in **interviewing**) and video is sometimes used in 'interpersonal process recall'. In the latter, a person is shown a video of, say, a presentation in a training course and asked to recall their thoughts and reflect on their actions.

Second, images can be used *as* either primary or secondary data. In the context of primary data, the researcher asks for images to be created by those being researched – for example, in researching conceptions of science, children have been asked to produce their own drawings of a scientist and often come up with stereotypical images of men in white coats. The researcher could also ask for photographs, video or audio from an individual or a group, say, a video or photographic diary kept over a period of time, so that, in one example (Moore *et al.*, 2008, cited in **surveys**), respondents were asked to produce a collaborative record of city life (see **diaries**). As to secondary data, the researcher will collect existing images, for example, from documents, street art, graffiti, prospectuses or children's drawings. Finally, researchers may keep their own image-based records of events during their research and these may be particularly valuable for promoting discussion in teams and perhaps celebrating how much has been achieved.

A third context for the use of images is in *presenting* data and research. A report or dissertation could include pictures of research sites, recordings of performances and recording of data management, for example, descriptions of the process of coding may seem very abstract until presented with images of the data spread out on a table. The electronic submission of dissertations and theses in many universities has made the inclusion of images much more straightforward in academic outputs. Researchers may also create multimedia blogs of their work and/or research project web sites as the project unfolds. Of course, there are here – and elsewhere in the use of images – many ethical issues to consider and it is worth adding that many readers today will find the earlier Bateson and Mead work intrusive. Permission from research participants is needed (see, for example, Nutbrown, 2011, in looking at the representation of young people in research, and sensitivity required).

For some, visual research is distinctive and requires its own methodology and methods of analysis (see Pink, 2001) but, while there are unique features of visual data, most 'lay' researchers will draw on and adapt methods from areas such as content, discourse, diary and document analysis. The researcher's task is to interpret, 'analyse' and deconstruct the image. This may involve, for example, asking questions relating to authorship, audience, production, content and

context (see **documentary research**), while recognising that there are clear differences between, say, how a written and visual text is organised.

In some contexts, to use the cliché, an image is worth a thousand words. Images are often better at conveying emotion, at providing a description, capturing a scene or situation. However, they are not as effective in conveying abstract values or concepts. For example, the pictures of Mandela walking free from prison in the Western Cape, South Africa, are iconic, they convey a story about freedom, change and dignity; but they will not in themselves provide a theoretical account of the factors that led to the overthrow of the apartheid regime. Abstract thoughts or ideas are difficult to convey by the use of an image. On this point, consider the word game known as 'Pictionary', in which a player is asked to draw an image to illustrate a word chosen at random from a pack and the other players have to guess the word. It is easy to create a simple image to show an object such as 'nose' or 'lorry', but it would be impossibly challenging to draw an abstract concept such as 'epistemology' or 'ontology'.

For many years, visual data have been undervalued in social research but the picture is changing. Reasons for this change probably include the much broader concept of literacy we have today; the increasing access to library archives of images over the Internet; greater flexibility in what we think of as data; and a natural, or socially constructed, tendency to look to multiple methods for reporting and dissemination. Visual research can, of course, stand alone but it can also complement both word- and number-based research and form part of a genuinely mixed methods approach. Walker summed this up concisely by suggesting that: 'In using photographs the potential exists … to find ways of thinking about social life that escape the traps set by language' (Walker, 1993: 72). The limits of language need not be the limits of our world.

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WRITING FOR AUDIENCES

Social researchers produce a wide range of texts for different audiences and for different expectations. For example, many now create their own web sites and personal blogs, perhaps Twitter accounts, and these are often used in a more confessional, opinionated manner or self-promotional way. Online texts are increasingly supported by images, sound files and video clips. Reports to funding bodies, in contrast, are often expected to be text based and to follow a more tightly structured format. They typically contain an executive summary, followed by notes on methodology, main findings and recommendations. The vocabulary is precise but non-technical (technical questions are often dealt with in a separate report) and the recommendations need to be very clearly expressed. The use of the third person is commonly expected; indeed, authorship is not always attributed.

Reports in academic journals are often structured around a fairly similar format: background, notes on methodology, findings and discussion. However, in contrast to commissioned reporting, considerable attention will be paid to a literature review, and papers are expected to engage with methodology in depth. Journal articles carry extensive referencing with the intention that the article can be read in a wider context and its contribution to a 'body of knowledge' made clear; indeed, the abstract will generally point the reader to the wider significance of the research. Clarity is increasingly expected in academic writing and, where necessary, technical terms will be defined carefully. Papers are normally expected to address the international reader and authors need to provide background detail on institutions and practices that may be unfamiliar outside of the local context,

while avoiding matters of parochial interest. In line with the increasing pluralism in research methodology, the expectations regarding journal papers are less uniform than once was the case. When submitting to journals, authors are urged to read the 'guidelines for authors' carefully and to look at the kind of reporting undertaken in back issues.

Knowing the expectations of an audience allows the writer to adopt a suitable 'scaffold' or framework for writing. A scaffold reduces the choices available to the writer and hence the complexity of the task. This is important, as writing is, at least for most of us, incredibly challenging (Becker, 2007), 'an act of masochism', as one student put it, as it requires the attention to engage with both form and content, and both the word and the whole text, at the same time. The challenge is often increased if asked to write in a second or additional language. However, a scaffold should not constrain the author; indeed, by knowing the expectations surrounding a text, the author can better understand why they want to personalise their account.

Scaffolds or frames for writing become particularly problematic in regard to the doctoral thesis. Many textbooks provide a template for the thesis, for example, recommending that chapters should cover: introduction; research questions; literature review; methodology; findings, conclusions and recommendation; discussion; bibliography; and glossary. Authors are often invited to write in the third person. While this may suit some reporting, it will not suit all; doctoral students need to be aware that there are a wide range of 'templates' that can be followed and to explore how others have presented their theses, particularly those working within the same or similar research traditions. For example, **action research** projects are often presented in a chronological order to illustrate the abductive nature of the investigation; **grounded theory** should logically present a consideration of the literature after data have been collected, and any 'review' should be contained within a discussion of theoretical sampling; **narrative** enquiry will make extended use of vignette and verbatim reporting. **Interpretivists** will provide sections, even chapters, exploring issues of **positionality** and **reflexivity** and will almost certainly use the first person in their writing. In some cases, products such as software or recordings of performances are component parts of a thesis. There may even be a case for writing a thesis in blank verse or rhyming couplets; it has been attempted, but this would have to be established within the logic of the enquiry.

While there is flexibility regarding how a thesis is presented, and considerable dispute as to the purpose and nature of the PhD (e.g. Park, 2007), most examiners are looking to evaluate against a broadly similar set of overarching criteria (Tinkler and Jackson, 2004). First, the thesis (in Greek, the thesis is a 'position') should contain a 'thesis', that is a clear research question and a 'clear idea' (Nightingale, 1984). Second, the author should show how this central idea makes a claim to knowledge. This will take in arguments of **validity**, **reliability** or **trustworthiness**, but also establish the logic of the enquiry and the chain of reasoning that leads from asking a question to making a claim that the evidence has been marshalled to answer that question. The author needs to explore the big questions of **epistemology** and **ontology** and whether claims are being made in regard to **generalisability**. Third, **methodology** and **methods** should be illustrated in detail with the framework of inductive and/or deductive analysis explained. The main body of work should provide examples of data analysis and interpretation with an audit trail often expected.

Throughout, the researcher should illustrate criticality: for example, how the author's **position** affected the posing of the problem and the ways in which the data were collected. Literature should be evaluated critically with any disciplinary bias explained. Alternative interpretations should be provided, the weaknesses as well as the strengths of the research outlined, and reflections offered on what the researcher would do differently if starting out again.

The thesis is expected to make an 'original contribution' (Wellington, 2010). There are different ways this might be conceptualised (Philips and Pugh, 2000). The thesis may make a **theoretical** contribution, for example, by offering a new conceptualisation of a phenomenon or by testing the application of a theory in a new context. It might make an original methodological contribution by using an approach hitherto underused in a particular discipline or by adopting a cross-disciplinary approach. The thesis might make a contribution to **knowledge** in both disciplinary and professional domains. Originality is expected but this does not mean 'never considered before'; originality may be a new way of thinking about an old problem or even a re-study of data that have already been collected (see **secondary data analysis**). Some research students feel that, if someone is researching the same topic elsewhere, their claim to originality will be lost. This is misguided. Originality lies in the articulation and interpretation of one's individual thesis.

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GLOSSARY

a posteriori: coming after; following from and dependent upon experience and observation; in contrast to a priori knowledge, a posteriori knowledge is generated from experience.

a priori: coming before; prior to, and independent of, experience or observation; for example, what is known a priori precedes any direct experience of an event.

abduction: often used to describe an approach to analysis that alternates between inductive and deductive methods. The verb 'abduct' means, literally, the drawing away of something from its natural position. More strictly, abduction is the process of moving from data, or a collection of data, to a conclusion, explanation, theory or hypothesis. Unlike deduction (which involves moving from premises to a conclusion), it is not a strictly logical process, as it often involves what has been called a 'jump', a 'leap of faith' or an act of imagination. It is also rather different to induction, which involves the movement from individual instances to a generalisation (again not a logical process but certainly a human tendency).

action research: research carried out by the practitioner in an attempt to improve practice through a systematic cycle or cycles of planning, doing and reflecting.

activity: in the context of social research, activity is 'what people do to make something happen', and suggests some element of agency.

activity theory: a commonly used theoretical framework for theorising social activity in which activity is seen as mediated by both physical and symbolic tools. A wider view of activity theory was developed, most notably by Engeström, to suggest that that activity takes place within a wider system of rules, community and division of labour.

actor network theory (ANT): a theoretical framework for viewing social activity as generated within a network of humans and

non-human 'actors' or 'actants'. ANT often has a focus on the creating and maintaining of networks of activity and how, once created, networks become taken for granted or 'blackboxed'.

agency: this refers to the capacity of individuals to act independently and to make their own decisions based on an awareness of their situation and the range of responses open to them; agency is sometimes referred to as voluntarism.

analysis: generally refers to the breaking down of a topic or object into its component parts and understanding how those parts fit together.

applied research: research directed towards solving a problem or designed to provide information that is immediately useful and applicable.

associationism: the idea that what we learn, and the ideas we develop, are a result of the associations we make with our perceptual experiences, often seen as a forerunner to, and for some a looser form of, behaviourism.

asymmetrical: lacking symmetry, not matching; for example, in feminism, the positions of men and women are asymmetrical; in philosophy, Popper used the term logical asymmetry between verification and falsifiability to stress that one does not imply the other.

attitude: a person's feelings towards social situations or people.

audiences: individuals, practitioners, academics, public and private groups or organisations to whom research is addressed.

audit trail: an organised collection of materials including all the data generated in a study; a statement of the theoretical framework used in the study; a description of the procedures used to analyse findings.

author: the person who 'originates' a text; in academia, the idea of author is closely related to that of authority.

axiology: the study of values and beliefs.

behaviourism (also behaviouralism): in psychology, an explanation that behaviour, including learning and socialisation, is a consequence of stimulus and reinforcement; behaviourism is concerned with observable behaviour. In social science, behaviourism is often associated with an attempt to provide a value-free statistical approach to explain and predict social behaviour.

bias: ways in which the identification of problems and the collection and interpretation of data may 'lean to one side'; a biased view lacks 'objectivity', perhaps due to unacknowledged prejudice.

biased sample: the result of a sampling strategy that deliberately includes or excludes certain individuals or groups. A sample may be biased for quite defensible reasons.

black box: has roots in science and engineering to refer to a description of a system, for example, a circuit, in terms of input and output and not the internal workings of processors. The term is often used as a metaphor to describe a concept or process that is taken for granted or not interrogated. For example, in statistical analyses, computer packages become a black box if one does not understand the principles underlying the procedural algorithms being used; in behaviourism, the mind is often taken as a black box as it is not the object of analysis.

bottom up: analysis and interpretation that is generated from within the data.

bricolage: a pieced-together approach developed as the researcher responds to particular challenges within the course of a project.

case: a unit of observation or a unit of analysis; studies which consider many units of analysis are often called large N studies.

case study: a study that is bounded by a focus on a particular person, event, group, organisation, a town or a unit of any kind. Case studies are often described as having descriptive, exploratory or hypothesis-testing purposes.

causality: a very precise connection between a cause (X) and an effect (Y), so that if X therefore Y. In contrast to simple association, causality claims that X and Y are directly related; that X precedes Y; and that there is a plausible explanation as to why X causes Y. In logic, if X is a necessary cause of Y, then Y necessarily implies X; however, if X is present, it does not mean that Y will necessarily take place. If X is a sufficient cause of Y, then the presence of X necessarily implies Y.

chaos theory: the world is not entirely predictable; small changes in initial conditions may lead to startling outcomes.

coding: the process of applying tags, names or labels to items of data, most often unstructured interview data. Coding makes data manageable through organisation into consistent and meaningful categories. Open coding is a flexible listing of the associations made with lines of text; axial coding helps to develop more abstract and more explanatory categories.

cognition: a general term to refer to mental processes such as decision making, recall, problem solving and, in a general sense, reasoning and learning; social cognition has a more general interest in what is learnt socially rather than by the individual.

cognitive behavioural therapy: a psychotherapeutic approach that tries to help clients address unwanted or inappropriate emotions, actions and cognition; techniques often involve reflection on actions and rehearsal of, and support for, alternative behaviour.

collaborative research: working together to achieve a shared goal and may include collaboration between researchers and collaboration between researcher and researched. Collaboration is often contrasted with cooperation (working together to achieve individual goals) but sometimes the two are used interchangeably.

communities of practice: people who share interests and/or goals. Members learn together through participation and may create shared products and or cultural understandings.

comparative research: the search to identify what is common and what is shared across contexts, usually, but not necessarily, across different countries.

concept: generally a unit of meaning formed by comparing, and abstracting, common characteristics from different cases. Philosophers differentiate between realism, in which concepts are seen as having an objective meaning, and nominalism, which stresses the social construction of concepts. Wittgenstein suggested that concepts may share family resemblances rather than strictly matching characteristics.

conceptual framework: in inductive enquiry, a general orientation to a topic using a mix of published literature, personal knowledge and speculations on the kind of relationships that might emerge in the main study; in deductive enquiry, the basis for the hypothesis being tested.

confirmability: the degree to which the findings are supported by the data. This may be demonstrated, for example, by the use of member checking and participant validation, i.e. participant feedback on the descriptive and interpretive reporting.

connotation: in semiotics, the deeper and more symbolic reading of a text.

constant comparison: where the researcher considers all the instances in which a category has been applied in order to better define its properties and limit its application.

constructivism: provides a focus on how individuals, or individuals in groups, make meaning; in contrast to behaviourism, the world is seen as made up of conceptual constructions rather than objective realities.

content analysis: a systematic attempt to identify the frequency with which certain words, functions or concepts occur within a text

and, at a more challenging level, to explore the context in which these words are positioned for rhetorical or other effect.

context: the circumstances in which something took place. In linguistics, to take something out of context is to ignore what comes before or after.

contrarian: a person taking up an unpopular or less commonly expressed position for the sake of it.

control group: in social research, the group of people in a trial who do not experience the treatment given to an experimental group. In theory, the purpose of a control group is to show what would have happened to the experimental group if it had not been exposed to the experimental treatment.

conversation analysis: exploration of interactive conversation to expose patterns within talk. Analysis involves transcribing of conversation; the marking up of text; and the investigation of patterns such as 'turn taking' and 'repair'.

correlation: in statistics, the investigation of association or dependence between two variables so that X can be said to be associated with Y. Correlation is not synonymous with causality.

counterfactual: what might have happened if events had been different – for example, in politics or history, what would have happened if a different party had come to power; in psychology and social relationships, what other course of actions individuals have and what would need to be in place to make these options available.

countervailing: to offset the effect of something by countering it, e.g. in business, associations of independent retailers may offer a countervailing presence against large suppliers. In social research in general, countervailing examples provide a contrast to prevailing theories.

credibility: in a broad sense, how likely something is to be the case; credibility is enhanced if the researcher has had prolonged engagement with participants, can show rigorous and extensive data analysis, and has carried out some kind of participant validation. Credibility in interpretive research for some mirrors validity in more positivist research.

critical theory: a concern for understanding the shortcomings of a system and the potential for something much better.

criticality: the exercise of careful, deliberate and well-informed judgement, not taking past literature or past theorisation on trust.

culture: a broad term including achievements in the arts and humanities; usually, in social research, culture refers to what is

shared in terms of attitudes, values and practices among members of groups or institutions, expressed colloquially as 'the way things are done'.

data: this tracks back to the idea of 'datum', plural data, to mean in Latin 'what is given'; hence, data are what we have available to work with. In information systems, data are contrasted with information and knowledge: data are alphanumeric characters. Deriving information involves making meaning from the context in which these characters are presented and knowledge may refer to a wider understanding of information systems. Hence, data represent the lowest level of abstraction. In social research, data include interview transcripts, diary entries, survey returns and so on. In action-orientated enquiry, data collection might be used both to collect data and as an impetus for change.

deconstruction: a way of examining texts (i.e. 'taking apart'). In linguistics, implies the unspoken or unformulated messages of a text, the deconstructed text draws attention to meaning, which may not be obvious from a superficial reading.

deduction: in philosophy, a method for reaching valid conclusions from initial premises; in social research, deductive methods are associated with hypothesis testing and top-down application of theory.

Delphi method: a structured, iterative approach to eliciting expert opinion on a topic.

denotation: in semiotics, the first level of analysis, often the surface reading of a text.

dependability: in interpretive research, often used in the broad sense of reliability so that an audit trail may provide a means to assess dependability.

dependent variable: this is the effect or the outcome that is of interest to an investigator. It is the variable which is measured or judged in an investigation, often in the context of a controlled experiment, i.e. the factor that is changed or influenced by an experimental treatment. In contrast, the independent variable is the factor that the investigator chooses to change in an intervention and to vary systematically in order to see what happens. Confounding variables are the factors that 'get in the way' by also influencing the dependent variable; in some cases, they are not controllable or even identifiable.

description: what happened rather than why it happened; all description, however, involves an interpretive framework.

determinism: a belief or focus on human behaviour as the result of external factors, rather than as generated by internal motivation and intention.

diaries: a log of events organised in chronological order. A researcher may keep a research diary and/or ask research participants to keep their own diaries as a source of data; diaries existing before the research was initiated may be used as secondary data sources.

discourse analysis: the examination of texts in naturally occurring situations, with a particular focus on spoken and written communication; it is mainly concerned with analysing what is being communicated and how, for example, uncovering codes, rules and signs in speech or text.

document analysis: the strategies and procedures for analysing and interpreting diaries, minutes of meetings, contracts, policy statements and so on relevant to a particular enquiry.

ecology: in natural science, the relationship of the living organisms to each other and to the natural environment as a whole; increasingly used in social research to express a concern for a situated view of cognition or identity. Ecological validity considers how far what is found in one context may change as environments change. An ecological fallacy assumes that relationships that have been reported at a general level work to explain the behaviour of an individual.

emic: an account that is meaningful to members inside an organisation or participants within a field of social activity, and may well seek to give voice, directly or indirectly, to these insiders.

empirical research: in contrast to deskwork or 'armchair' research, empirical enquiry involves first-hand data collection, e.g. by interviewing, observation, questionnaire. Empirical research is often described as an atheoretical approach, though this need not be the case and most research is both empirical and theoretical.

empiricism: in philosophy, the belief that all reliable knowledge is dependent upon and derived from sense experience; in social research, a belief that a phenomenon can only be understood through observation and measurement.

Enlightenment: a cultural movement of intellectuals (particularly associated with European philosophy towards the late eighteenth century) that promoted a rationalist approach to politics and social enquiry concerned with addressing superstitious and intolerant beliefs. Enlightenment thinking has had an enduring legacy and has informed positivism.

epistemology: the study of the nature of human knowledge. In philosophy, two traditional camps have been rationalism, which stresses the role of human reason in knowing, and empiricism, which stresses the importance of sensory perception. In social research, the distinction between positivist and interpretivist ontology is often cited.

ethics: the moral principles guiding conduct, which are held by a group or even a profession; in social research, ethical questions often concern respect shown to others, the purpose of the research, who the research benefits and how it is reported.

ethnography: a methodology with roots in anthropology which aims to describe and interpret human behaviour within a certain culture; it uses extensive fieldwork and participant observation, and ethnographers aim to develop rapport and empathy with people studied.

ethnomethodology: an approach originally associated with Garfinkel and other US sociologists, which focuses on the way that social actors develop and sustain order in their interactions with each other. It is an interpretive approach often with a concern for how we use language to make sense of our actions.

etic: the outsider view; in social research, often the general concepts and categories that have been developed within a particular discipline.

evaluation research: the systematic assessment or investigation of the worth, merit or value of an innovation, an initiative, a policy or a programme.

evidence-based practice: the attempt to base professional interventions on a systematic review of existing research.

experimental group: the group of people in a controlled experiment who experience the experimental treatment or intervention.

experimental method (also 'scientific' method): seeks to investigate, in a controlled context, the impact of one variable on another as measured by observable outcomes. Normally involves hypothesis testing, objective testing and comparison of control and experimental groups.

explanation: offers a reason why something has happened and is often contrasted with a description (an account of what happened).

external validity: the extent to which the findings or conclusions of a piece of research could be generalised to apply to contexts/situations other than those in which the data have been collected.

feminism: in politics, a concern for establishing and defending the political, economic and social rights of women; feminist methodology is concerned with issues of gender inequality, including the marginalisation of gender in academic discourse; methodologically, it has a distinctive focus on positionality, ethics and action.

formative evaluation: evaluation carried out in the early or intermediate stages of a programme, a course or an intervention, it takes place while changes can still be made; formative evaluation shapes and informs change.

game theory: the study of what we would do in hypothetical situations if we were following rational decision-making strategies.

generalisability: the extent to which research findings in one context can be transferred or applied to other contexts or settings.

grounded theory: an approach in which interpretation emerges through a systematic exploration of the data rather than through top-down deductive analysis.

habitus: generally refers to dispositions, beliefs and skills, which are learnt through social participation in everyday life; habitus is often associated with the French sociologist Bourdieu and his interest in how objective social structures are absorbed by individuals in everyday participation.

Hawthorne effect: initial improvement in performance following any newly introduced change, no matter what.

hermeneutics: the art or science of interpretation; often applied to the interpretation of a text, a work of art, human behaviour, discourse, documents and so on, and a hermeneutic approach is concerned with subjective interpretations.

heuristic: refers to strategies or techniques for problem solving; at its simplest, trial and error is a heuristic strategy; a heuristic model sets out appropriate steps to take in addressing a problem.

holistic: a holistic approach looks at the whole picture rather than the particular parts.

hypothesis: a suggestion that there is a relationship between variables X and Y such as if X then Y; hypotheses are generated for testing and subject to subsequent confirmation/falsification.

ideal speech community: in theory, a type of discourse community in which all parties are competent to speak and act, to question the rules and procedures by which agreement is sought and otherwise unconstrained in what they question.

idiographic approach: an approach focused on the particular case rather than seeking to draw out generalisations, often contrasted with a nomothetic approach.

induction: the process of inferring a general law from the observation of particular instances.

inference: reaching conclusions from the available data; in logic, inferences are derived from original premises; in statistics, tests of inference may contrast the distribution of the collected data against random distribution.

institutions: a broad term covering public and private organisations with formal structures, for example, government departments, the Church, trade unions as institutions, as well as aggregations of bodies with less formal ties, for example, the press and the media in general as institutions. In social research, institution is used very broadly to cover social customs and structures that, over time, have become seen as permanent and, to some degree at least, governing behaviour – for example, the institution of marriage includes social expectations concerning marriage.

instrument: any technique or tool that a researcher uses, e.g. a questionnaire, an interview schedule, observation framework, etc.

interconnected: in general, the idea that the parts of a system interact and rely on each other; in social research, often used to describe how far the researcher's presentation and interpretation of data matches or 'interconnects' with that of the research participants. Strategies such as participant validation and member checking can make an account seem more interconnected.

interpretivism: the goal of interpretivist research is to understand the meaning that cultural and institutional practices have for those taking part.

inter-rater reliability: the level of agreement among raters of, for example, the application of a coding schedule; it is concerned with reaching consistent judgements. Low levels of inter-rater reliability suggest that the procedures are ambiguous and/or raters need to be retrained. This, of course, assumes that consensus is both desirable and possible.

intertextuality: the reading of a text in relation to other texts. Texts are increasingly produced with intentional intertextuality.

intervening variable: explains or mediates a relationship between X and Y, for example, there might be a relationship such as those who are poor often have short life expectancy; an intervening variable here might be that there is a lack of health care for those who cannot afford to pay for it.

interview schedule: a set of questions used in interviewing; schedules may range from unstructured to semi-structured to completely structured (a face-to-face questionnaire).

interviews: conversation between the researcher and interviewee often carried out in order to gain an understanding of attitudes, beliefs and behaviour.

iteration (adj iterative): in mathematics and physics, repeating a function in order to reach a more precise outcome; in social research, procedures that are repeated to get a better understanding of a problem.

knowledge: not capable of simple definition but often includes understanding of information, recall of facts, ability to carry out skills.

life history: presentation of an individual's or individuals' experience of life.

Likert scale: a scale named after the American psychologist Rensis Likert, often used in questionnaires when asking for the respondent's attitude to, or opinion of, a statement (the 'item') presented to them. Typically, the two extremes will be 'strongly agree' and 'strongly disagree', often with either three options (making a five-point scale) or two options (in a four-point scale) between the two poles. There is some debate over how many options should be presented, with some arguing for a seven- or even ten-point scale and whether the intervals within the scale should be taken as equidistant.

literature review: an overview of what has been written about a particular field or topic; covers what has been said and who has said it, and sets out prevailing theories and methodologies.

logical positivism: a philosophy developed that argues that the only meaningful knowledge is that based on, and verifiable by, direct sense experience. Hence, it holds that any descriptive statement that cannot be empirically verified by sense observation is meaningless.

longitudinal research: research in which data are collected and analysed on the same individuals or the same organisations at different points over an extended period of time.

Marxism: an orientation to enquiry that draws on Karl Marx's writing in the nineteenth century. Marxism is open to endless interpretation but at its heart is the idea that economic activity (the mode and means of production) lies at the core or 'base' of most social and political phenomena (the 'superstructure'). Marx analysed the contradictions, particularly between economic and social systems, to argue that history is a history of class struggle.

member check: informant feedback on the description and interpretation of data.

meta: something that 'stands above'; for example, a meta-review stands above the literature to offer an analysis of previously reported studies.

metaphor: using something familiar as a context to explain an idea that is difficult for the reader or listener.

metaphysical: standing above the physical, for example, a metaphysical phenomenon is one that cannot be explained through normal physical laws of nature; more precisely, in philosophy, a metaphysical explanation is not derived from 'sense experience', in other words, is not generated from, or validated in relation to, observable data.

method: the means through which data are gathered, for example, interviewing, surveying, observing.

methodology: the study of the methods, design and procedures used in research.

middle range theory: one that works across a limited number of contexts as opposed to general theory.

mixed methods: a combination of, typically, quantitative and qualitative methods in order to provide complementary and perhaps contrasting perspectives on a phenomenon.

model: an abstraction in order to make a phenomenon clearer; a model highlights the most important factors or variables, and the ways in which they interact. A model might be a formula, a network analysis or other diagram, a concept, an ideal type and so on.

modernism: cultural and artistic movement often located in the first part of the twentieth century aimed at rejecting traditional approaches to the arts; in economics, modernism has been associated with large-scale economic production ('Fordism') and in politics with mass movements.

N: the number of people or subjects studied or sampled in a research project, e.g. N = 1 signifies a single case study; studies may be small N or large N studies.

narrative: an attempt to 'fit a story into a plot line'; the narrative enquirer wants to understand the way participants make meaning of the events that shape their lives.

nominalism: the idea that concepts are socially constructed.

nomothetic: an interest in making generalisations across cases, in contrast to the idiographic approach.

normative: in philosophy, associated with what ought to be the case rather than what is the case; normative social research is not and

does not intend to be value free. Social research may also set out to describe normative values held by those being researched.

null hypothesis: the inverse of the expected hypothesis, so that, if X then Y is posited, then if X not Y is the null hypothesis.

observation: our direct experience of a phenomenon or event.

ontology: claims made about the nature of being and existence.

opportunity (or convenience) sampling: interviewing or surveying those who are easiest to reach; of value in getting access to a hard-to-reach population or if the research is not setting out to provide a general picture.

outlier: outliers do not fit the general picture; in statistics, data that appear to deviate markedly from other data in the sample.

paradigm: in social research, the expectations as to what is to be studied, how it is to be studied and what is to be done with the findings. Positivism and interpretivism are often held up as paradigms in social research.

parsimony: the principle of parsimony, also called Occam's razor, maintains that researchers should apply the simplest explanation possible to any set of observations. Theory, it is sometimes argued, should be parsimonious in that it should not be generalised beyond the cases for which there are data.

participant observation: entails a researcher spending a prolonged period of time participating in the daily activities of a community or a group.

participant validation: informant feedback on the description and interpretation of data; for some, may involve a more prolonged engagement than member checks.

phenomenology: in philosophy, a focus on how experience of the world is mediated by pre-existing concepts, thoughts and ideas. In social research, an interest in uncovering the perceptions and experiences of research participants is sometimes referred to as a phenomenological approach.

phenomenon: this is an occurrence, an event or a happening as we perceive or observe it using our senses. In social research, phenomenon takes on a general meaning of describing actions, behaviour, customs or cultural practice. In philosophy, phenomenon has been contrasted (by, for example, Plato and later by Kant) with the 'noumenon' behind our perception, meaning literally the 'thing in itself'. Plato used the idea of shadows being cast on a cave wall by ideal forms – all that we can perceive are those shadows rather than the forms that create them.

population: the entire group from which the sample is selected, e.g. every student in a particular school/college. The population itself depends on the focus and scope of the research.

positionality: how research might be affected by the researcher's own particular background, beliefs and values.

positivism: a view of the world as being capable of 'objective' interpretation; a belief that social science should follow the methodologies and methods established in natural science.

postmodernism: a widely used term to signal the end of universal truths, totalistic explanations and 'grand narratives'. Key words are difference, heterogeneity, fragmentation and indeterminacy.

pragmatism: taking a practical orientation to a problem and finding a solution that is fit for a particular context.

protocols: a protocol sets out the steps to be taken in a research project; for example, an interview protocol sets out how the interviewer should introduce him- or herself and how ethical questions are addressed when meeting the interviewee, in addition to the interview schedule.

purposeful/purposive sampling: sampling done with deliberate aims in mind, for example, selecting respondents who may be expected to be typical, atypical, exemplary and so on. Purposive contrasts with random sampling.

qualitative: describing methods or approaches that deal with non-numeric data rather than numbers.

quantitative: methods or approaches that deal with numeric data, amounts or measurable quantities, i.e. numbers.

random sample: sample drawn in such a way that every member of a population has an equal chance of being selected, e.g. every tenth name in a long list.

randomised controlled trial (RCT for short): a trial in which members of control groups and experimental groups are allotted at random.

realism: in philosophy, the idea that there are objective descriptions of a reality.

reflexivity: examination of one's own beliefs, judgements and practices during the research process and how these may have influenced the research.

regression: in statistics, techniques for analysing the relationship between dependent variables and independent variables.

reification: in social constructivism, an institution or practice becomes reified when it takes on an independent existence, when it is taken for granted; in community of practice, reification

is described more neutrally as the products and processes that members of a community develop together.

relatability: 'able to connect with', for example, the reader may find research relatable if able to compare one case with their own; in a more contested sense, the reader may be able to use similar techniques and processes as those reported, and here relatability suggests a kind of generalisability.

reliability: the extent to which a test or technique functions consistently and accurately by yielding the same results at different times or when used by different researchers.

sample: the smaller number of cases, units or sites selected from a much larger population. Some samples are assumed to be representative of the wider population.

saturation: refers to the completeness of a procedure and a point at which further investigation can stop as no new insight will be gained; for example, open coding may reach a saturation point at which no new codes are being generated; sampling may reach saturation when no new insights are being uncovered. Judgements on saturation are based on probability rather than proof.

scenarios (also vignettes): short illustrative cases, lacking the depth of case studies.

scientific method: often used to describe the experimental method but sometimes used more generally to indicate the methods of natural science.

secondary data analysis: exploration of data generated within other studies and made available to the wider research community.

significance: in statistics, an association between variables that is unlikely to be generated by chance.

situated: draws attention to the fact that activity takes place within particular material and cultural conditions to raise issues of positionality and generalisability.

social capital: covers questions of trust and networking between people and is associated with civic and other types of social participation.

social network analysis (SNA): explores relationships between individuals (or organisations) and typically presents this diagrammatically.

social science: a header for a range of subject areas concerned with social research; for some, an indication that social research bears a family resemblance to natural science.

spurious relationship: one that appears valid but for which there is no viable causal explanation.

structuralism: in linguistics, a concern for what is signified in systems of language and the relationship of words to one another; in Marxism, sometimes used to describe the economic base on which the superstructure of cultural and political institutions rests; in anthropology, associated with taken-for-granted assumptions about how society should be organised. Post structuralism critiques elements of 'objectivism' or positivism with structuralism.

summative evaluation: carried out at the end of a programme or intervention to assess its impact, often against predefined criteria.

surveys: the systematic collection of data from a survey population. Most survey work deals primarily with quantitative data.

symbolic interactionism: has a focus on the interaction between people and between people and 'things' with an interest in how actors make sense of situations they encounter; symbolic interactionism is often interested in roles that are played and how language is used to make sense of a situation.

systematic reviews: these use predetermined criteria for analysis of existing literature. Protocols set out criteria to decide which studies can be included and how these studies are to be analysed and reported.

texts: now widely used to refer to any kind of product that is created to communicate meaning to include words, images, signs, images and film and moving images.

theory: wide-ranging term to cover a framework for interpretation, an idea, a model or principle to account for a phenomenon. A theory provides a lens through which to view the data.

thesis: one's position on a topic, what one wants to say about this topic.

top down: a largely deductive approach, apply existing frameworks or theory to the data. The contrast is with a bottom-up approach.

transcription: the representation of speech in written form.

transferability (also generalisability): the degree to which the findings of one's enquiry can apply beyond the bounds of the project.

triangulation: findings/conclusions reached by drawing on evidence from two or more types of evidence.

trustworthiness: offered as an alternative to the traditional notions of 'reliability' and 'validity' to cover credibility, transferability, dependability and confirmability; sometimes used in a more general sense to cover ideas of interconnectedness between researcher and researched.

unit of analysis: the focus of attention in a study.

universal theory or general theory: provides overarching generalisations about human behaviour and activity, for example, Marxism.

validity: the extent or degree to which an enquiry, a method, test, technique or instrument measures what it sets out or purports to measure. External validity refers to the generalisability of findings.

variable: a measurable or non-measurable characteristic that varies from one individual or organisation to another. Variables may be qualitative, others quantitative, i.e. expressible as numbers. Age, gender, ability, personality characteristics and 'intelligence' are a few examples of human variables.

visual methods: analysis of, and use of, pictures, film, multimedia, photographs, cartoons, signs, symbols or drawings in social research.

warrant: claim concerning the conclusion being drawn from the data rather than the technical validity and reliability of the data.

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