

Teaching and Learning in
Higher Education
Disciplinary Approaches to Educational Enquiry

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CHAPTER 2

WHAT DO I NEED TO KNOW BEFORE I READ EDUCATIONAL LITERATURE?

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Learning outcomes

By the end of this chapter it is anticipated that you will be able to:

- Identify the different approaches to, or models of research and enquiry (paradigms) that you are likely to encounter in the literature on learning and teaching in higher education;
- Identify where your own disciplinary research approaches sit in relation to these research paradigms; and
- Explore the opportunities, as well as the limitations, that adapting your own disciplinary methods to the study of learning and teaching can afford.



Introduction

As noted in Chapter 1, a number of academics that we have worked with in our respective institutions have found the terminology, approach and methods of educational research very different to those which they use in their own disciplines. This often makes them feel at the very least disengaged from, or at worst hostile to, educational research. It is possible, if you are reading this book, that you will class yourself as one of this group. For those of you who come from disciplines where educational research does not underpin your work, it can be easy to view research and theory about higher education pedagogy as the preserve of those who work in education, in the same way as, for example, chemical engineering or law academic publications are written for academic audiences in their respective disciplines. Our starting point for this chapter however, is that just as aspects of chemical engineering papers can be useful to those outside of academia – in industry perhaps – and law papers can be used by those in wider legal practice, so too publications about higher education and academic practice may be useful to anyone involved in supporting students learning in higher education, from a range of disciplines.

In order to begin navigating the educational literature which can appear to a newcomer, like all academic fields, to be complex and jargon laden, it is useful to explore some of the philosophical underpinnings that serve as the bedrock of all research. Our experience suggests that an understanding of these will help you to make informed judgements about the utility, validity and reliability of the research found in the literature on higher education teaching and learning. This exploration will help you to understand *why* the educational literature tends to draw on particular research approaches and methods and *how* it goes about it. It should also help you to consider how you can embed your own educational enquiry within this wider literature and evidence base and to understand the potential opportunities as well as limitations that your own disciplinary methods can offer as a vehicle for educational enquiry.

Navigation of this field requires you to become familiar with a number of important terms. We are aware that the language of another discipline may seem as alien and counterintuitive to you as an unfamiliar foreign language. This is something your own discipline will also do: we all develop terminological shortcuts to help to explain concepts, theories, ideas and processes. As Wenger (1998) points out, this terminology and its role in engaging others in understanding meaning and process, forms the bedrock of *communities of practice* which, for the purpose of this chapter, could be subject discipline communities. However, in spite of this recognition, new educational terminology may still remain what Perkins (1999, 2006) terms 'troublesome knowledge'. The term 'troublesome knowledge' describes, amongst other things, terminology that is new or is used in a new way, that

can seem conceptually difficult or alien and relies on other underpinning knowledge and assumptions to become meaningful. We would encourage you to recognise the importance of such terminology in the field of educational studies. It is not there to trip you up, or indeed to obfuscate, but to help the discipline to make sense of the world around it. This is why the literature that you read on learning and teaching may appear so jargon laden and why we need to find a pathway through this to gain an understanding of the literature. As a way of helping you with this, as we go through the text we will endeavour to ensure that any terminology that may be unfamiliar to you is clearly defined.

What do I need to know?

Unless you are thinking of moving on to specialise in educational research and to gain promotion and standing based on your research in this field (which we recognise will not be the case for most people reading this book), then it is suggested that a broad overview, rather than a comprehensive understanding of the methodological approaches, data collection and analysis methods used in educational research should be your starting point. In this chapter we provide a basic introduction to the terminology, trends, values, understandings and expectations that underpin educational research to inform your reading of the literature. This should enable you to comfortably dip your toe in the water, without expecting you to dive right in!

Such an approach may seem alien to those of you who are researchers in another field where in-depth expertise has been key to your career and the status of your work. We would reiterate therefore that this text aims to meet the needs of practitioner researchers in this field who intend to draw on their existing expertise and use their established skills of research to improve their own and their colleagues' teaching and learning practice. For those of you who wish to move beyond this professional development approach and to undertake educational enquiry with a reach beyond your immediate practice, there are many texts on the market that provide comprehensive overviews of, and guidance on, educational research approaches and methods (see for example the list of recommended texts at the end of this chapter). However, for those of you who just wish to broaden your understanding and engage with the literature, or are starting to think about *how* to research within the teaching of your own subject, a good place to start is with what you already know.

Before reading further you may find it helpful to pause for a moment and reflect on your own understanding of the term 'research' in the context of your own discipline. A useful way of doing this is to think about key points you might include when completing the following three sentences (adapted from Opie, 2004):

1. My understanding of the term research is ...
2. Research should be undertaken by ...
3. I believe research is something that requires ...

As you will probably be aware, there is no single right or wrong answer to each of these sentences; indeed you may well have thought of a number of different key points for each one. However, as we consider below, your answers to each may well reflect your own (and your discipline's) view of how knowledge is created and the ways in which it is communicated to others.

As noted in Chapter 1 we propose that research has parallels with the term 'enquiry' – a view supported by Robson who uses the terms interchangeably, noting that the word *research* 'tends to put some people off' as it can be seen as 'some esoteric enterprise necessarily done by outside experts' (2002: xv). We have made reference to enquiry as being a suitable vehicle by which teachers in higher education can seek out knowledge, through a structured process, to address a particular research hypothesis, question or issue. They can then draw on these findings to reflect on their learning and teaching with a view to informing and enhancing their practice and, where appropriate, to sharing these results with others. You will note that these steps associated with educational enquiry are in actuality very similar to the research processes and practices that you engage in within the discipline.

However, while there may be broad agreement as to what we mean by the term 'research', if you were to compare your key points with a colleague from another discipline you would probably find some important differences; different disciplines have different ways of viewing what constitutes knowledge and how to create or move this knowledge forward. A brief overview of these differences should help you to engage with the types of research that you are likely to encounter in the educational literature.

We start by introducing an important term in educational research – namely *epistemology*. Whilst this may not be a term you are familiar with, it is vital to your growing understanding of educational research as it relates to how we all, from within our disciplinary contexts define, understand and create knowledge. As noted by Cohen et al., epistemology can be viewed as one set of assumptions made about the world and is concerned with 'the very bases of knowledge – its nature and forms, how it can be acquired, and how communicated to other human beings' (2011: 6). With reference to the work of Burrell and Morgan (1979), Cohen et al. go on to explore two views of the nature of knowledge in the context of educational research – knowledge that can be described as being 'hard, objective and tangible' compared with knowledge viewed as being 'personal, subjective and unique'. They further note that how one aligns oneself in this debate affects how one will go about uncovering and building knowledge:

The view that knowledge is hard, objective and tangible will demand of researchers an observer role, together with an allegiance to the methods of natural science; to see knowledge as personal, subjective and unique, however, imposes on researchers an involvement with their subjects and a rejection of the ways of the natural scientist. (2011: 6)

However, we wish to stress at this point that you do not have to always 'reject' all that you hold dear to engage in a different approach to research or enquiry!

Ultimately your epistemological beliefs are likely to be reflected in your whole approach to the research process, from formulating the research problem, to choosing a methodology, and collecting, analysing and disseminating data. This is captured succinctly by Robson who describes his own epistemological journey as he changed his research interests:

As an experimental psychologist I started with the virtually unquestioned assumption that rigorous and worthwhile enquiry entailed a laboratory, and the statistical analysis of quantitative data obtained from carefully controlled experiments. More recently I have developed doubts – in part explained by working in a department alongside social psychologists and ... [also, my developing interests in more 'applied' fields ... [This] precipitated a fundamental reconsideration of the style and approach to enquiry which is appropriate if one wants to say something sensible about such complex, messy, poorly controlled 'field' settings. (2002: xv–xvi)

This description demonstrates the shift in the author's epistemological assumptions in line with his research focus from one end of Cohen et al.'s 'hard, objective and tangible' and 'personal, subjective and unique' continuum to the other. It also leads us towards a further term that it is useful to explore briefly here, which may also be unfamiliar to you: *ontology*. Similar to epistemology, this term also helps us to identify and differentiate between different sets of understandings and viewpoints that underpin our approaches to research. It refers to our assumptions, or theories about, the nature of what exists: our perspectives on and understandings of the nature of 'reality'. The different epistemological starting points outlined above begin to indicate their own ontological underpinnings: one alludes to reality being tangible and observable while the other infers that reality is personally and situationally defined and therefore unique.

It is important to state, however, that we do not assume that every researcher undertaking educational enquiry must always embrace alternative understandings of knowledge and reality to those that they are used to in their discipline. We introduce this discussion with the aim of helping you to understand the advantages and limitations of your disciplinary starting points and any related choices that you make within the educational enquiry process. It is also necessary to recognise that there is no reason why your research, or the literature that you read, cannot embrace both approaches.

Paradigms in educational enquiry (and beyond)

So far we have introduced the idea that our approaches to research and the disciplinary conventions and cultures that we work within, are underpinned by our philosophical (epistemological and ontological) assumptions about knowledge and reality. Our understanding of how these different philosophical starting points came to be recognised and categorised, is often associated with the work of Thomas Kuhn (1962/1996). As Hammersley states, Kuhn's work, alongside other developments in the second half of the twentieth century, resulted in the growing adoption of the idea that there are competing research *paradigms*; that is, a competing set of 'philosophical assumptions about the phenomena to be studied, about how they can be understood, and even about the proper purpose and product of research' (2012: 2).

While we acknowledge that there are a number of competing and often self-identifying research paradigms that can be associated with educational enquiry (see Hammersley, 2012), for the purposes of this text we focus on two key paradigms that we feel you are most likely to encounter within the field of educational enquiry: *positivism* and *interpretivism*. Each one of these paradigms embodies different understandings of, and assumptions about, the nature of research and associated modes of enquiry, the nature and creation of knowledge and the basis of truth. Elements of one, the other or both paradigms may resonate with your own disciplinary understandings and experiences of research. Below, we explore these paradigms in further detail with the aim of further demystifying and clarifying some more of the difficult or different terminology that you may encounter in the educational literature.

Positivism

Although there is no one absolute definition, positivism broadly encompassed the view that there is one version of the truth, that truth is 'out there' to be discovered and by planning and conducting appropriately robust experiments we will get ever closer to understanding that truth. Truth here might be defined as authentic knowledge, empirical evidence, scientifically verifiable facts or logical information.

Robson notes that whilst positivism can be described in different ways, in a 'standard view', science (including social science) has 'explanation as a central aim'. He continues that such explanation is considered in a very restricted manner: 'namely, if you can relate an event, observation or other phenomenon to a general law (sometimes called a "covering" law), then you have explained it' (2002: 20).

This understanding is most commonly found in the life and physical sciences where researchers strive better to understand the physical and

biological world, what is in it, how it works and what the interactions within it and influences on it are. The approach uses logic, cause and effect, isolation of factors and the proposing of testable hypotheses to help generate an understanding of the world via a series of interlinked theories. These 'truths' can often be counterintuitive to everyday experience, but the theories created are used to power many of our technological advancements. The explosion of biological understanding in the latter half of the twentieth century, following the discovery of the structure of DNA, is a classic example. DNA has always been there doing its job, but once we knew what it looked like and started to understand how it works, the advancements in all areas of cell biology and medical science have been exponential. However, we know our understanding of DNA and its role in living organisms is as yet incomplete as the more we understand, the more questions appear.

Positivists also recognise that using an incomplete model can be 'good enough' for the job in hand; Newton's Laws of Motion are sufficient to facilitate man's landing on the moon but we need Einstein's theories of relativity to keep global positioning satellites in place and our satnavs and mobile phones working. New ideas in quantum physics including the 'hunt' for the Higgs boson particle seem strange (and perhaps counterintuitive) to many, but will help us address fundamental questions such as the origins and purpose of 'mass' and 'gravity'. The application of these empirical theories in industries and disciplines such as engineering and computing provide us with many of our everyday comforts and form the basis of the contemporary world.

In *positivism*, observation, data and the occasional hunch are used to construct a hypothesis about how something works. An experiment is then devised to test that hypothesis and prove it wrong. Only once the evidence is overwhelming that the hypothesis cannot be disproved does it then become a theory. A 'good' theory can be used to make predictions about the outcomes of certain sets of circumstances. However, this does not mean that future research will not disprove the theory or change our understanding of it.

A medical 'randomised control trial' (RCT) is a good example of this process in action. In RCTs, a researcher may hypothesise that a chemical they have extracted from a plant which historically has been used to treat a disease has some functional properties and could be developed into a new drug. As such, they may take two groups of samples (cells in a dish, animal models or human test subjects depending on how far the trial has progressed) and test one set with the new drug and the other with nothing or perhaps a placebo drug. They would then measure, objectively, the effect of that drug compared to no drug, with the assumption that no other factors have been changed. If they can show a bulk of robust evidence that the drug has a positive impact on that disease then they have a theory of effect and can move towards making it available for medical treatment.

The key factor at play here is *objectivity*: the researcher does not influence the outcome. Often real drug trials are conducted 'blind' where neither

the researcher nor the patient are aware which is the real drug in order to reduce any form of bias. Whether bias or influence can ever really be fully avoided remains a key debate, but the intention is always to design bias out of the experimental plan.

Most academics hailing from a science, engineering or mathematics background are likely to have only been exposed to this kind of approach to research. In fact, in our experience some may not even be aware of there being any other kind of (valid) research approach. As such, educational research that does not embrace this view and follow similar procedures can appear trivial and based on a subjective viewpoint rather than being viewed as objective 'research'.

While we argue that educational enquiry cannot simply or exclusively take a positivist stance (and explore later how this would limit the findings and results of enquiry), we acknowledge that academics in such disciplines may find it less straightforward to engage with, understand or appreciate research using a different paradigm. As such, focusing on literature describing projects that take a broadly positivistic approach may be an easier and more comfortable starting point, as the approach and design of the research will seem more familiar. Case Study 2.1 illustrates an example of this approach in action.



Case Study 2.1 Effect of A level maths knowledge on university learning

A maths lecturer was concerned that many of his first years seemed to be struggling with his module on mechanics. He hypothesised that it might be to do with which A level syllabus they had studied and that the amount of experience they had had with mechanics at school may impact on their ability to engage with it at a higher level. He collated the data on test performance at the end of the module and tried to correlate it with whether mechanics had been part of each students' A level work or not. He found a correlation, but it was not what he expected. He found that those who had done mechanics at A level had, on average, done worse in the module than their peers who had not. This seemed counter-intuitive. Further enquiry into the way students attempted the questions in the test, through implementing carefully designed research instruments in the form of a questionnaire and follow-up semi-structured interview schedules, shed some light on what was happening. He discovered that those with A level experience did well on the first few 'easy' questions that required not much more than A level knowledge of the equations. Effectively the students could recall equations they had

previously learned and apply them. However, as the test went on the questions became more difficult and a deeper knowledge was required. The students needed to be able to derive the correct equation from first principles to answer the questions. Those that had only had mechanics instruction in the module were able to do this. However, those that already 'knew' mechanics from their A level experience were falling back on their default knowledge and seemingly had not engaged with the 'new knowledge' of the underpinning principles and therefore could not address the test questions. Once this difference in approach by the two sets of students was understood, the lecturer could address it in the way the module was taught resulting in better success for all students.

This case study serves to illustrate an important point made by Robson in relation to research that involves people. He notes that researchers who adopt a positivist approach are looking for

the existence of a constant relationship between events, or in the language of experimentation, between two variables. This can be relatively straightforward when dealing with the natural world, although calling for considerable ingenuity and the ability to control the conditions of the experiment – which is why laboratories exist. However, when people are the focus of the study, particularly when it is taking place in a social real world context, 'constant conjunction' in a strict sense is so rare as to be virtually non-existent. (2002: 21)

For the maths lecturer in the case study, adopting a 'positivist' approach clearly provided him with an indication of the source of the problem. However, to obtain a full answer to the question 'why are certain students performing better than others?', he required a different approach that would have required him to ask students in a systematic manner about why they were approaching questions in a certain observed way. This approach would fall into the alternative paradigm that we introduce in this chapter: namely interpretivism (sometimes referred to as 'antipositivism' or 'naturalism').

Interpretivism

Interpretivism underpins a number of research approaches, but fundamental to all is the wish to understand *social* phenomena within their particular context. As such, the researcher does not attempt to research phenomena in objective ways, abstract from their broader context, but recognises that any account of phenomena necessarily needs to take their setting into account. This view is captured succinctly by Cohen et al. who note:

In rejecting the viewpoint of the detached, objective observer – a mandatory feature of traditional research – anti-positivists and post-positivists would argue that individuals' behaviour can only be understood by the researcher sharing their frame of reference: understanding of individuals' interpretations of the world around them has to come from the inside, not the outside. Social science is thus seen as a subjective rather than an objective undertaking, as a means of dealing with the direct experience of people in specific contexts. (2011: 15)

In contrast to the positivist approaches outlined above, the interpretivist paradigm is based around contextual illumination and understanding. As such, reliability and replication (breadth of understanding and applicability) are not central to this approach; rather the extrapolation of understandings and interpretations to similar (but not identical) situations is underpinned by the recognition that no social situation is the same and that depth of situational understanding, rather than breadth of understanding and wider applicability, is key. Quoting Bassey (1981), Opie (2004) notes that the study of particular or singular situations or events in educational contexts can often be seen as more useful (when usefulness is defined and judged by teachers) than approaches which aim to produce generalisable results. As such, he concludes, the *relatability* of educational enquiry (its relevance or similarity to other settings) is more important than its generalisability. In this vein, you may indeed find that you are drawn to educational enquiry undertaken from within your discipline, irrespective of its approach or methods, due to its relevance to your own setting and resonance with your own experiences.

The knowledge created by employing this approach is not seen as a universal truth but as an interpretation based on the people involved, the situation and observable or perceived practices, processes, interpretations and outcomes. Important to this process is the recognition that perceptions (however subjective and unobservable) can result in outcomes that have very real consequences. Thomas and Thomas, writing at the early part of the twentieth century in America, provide insight into this process that remains, nearly one hundred years later, clear, succinct and relevant: 'If men [*sic*] define situations as real, then they are real in their consequences' (1928: 572, cited in Gross, 2007: 194). This insight has become known as 'the Thomas Theorem' and underpins Robert K. Merton's concept of the *self-fulfilling prophecy*: 'a *false* definition of the situation evoking a new behaviour which makes the originally false conception come *true*' (Merton, 1948: 195; original emphasis).

An example of this process in action might be that a teacher in a classroom decides to set a mid-semester test to identify how students are doing in relation to a module's learning outcomes in order that future sessions can be tailored to students' learning needs. The test does not contribute to the final module mark and this is clearly conveyed to the students to ensure that students do their best, but are not overly worried about their results.

The students, in contrast, perceive this test to be a minor diversion which will waste their time when they need to study for their final exam. As a result very few turn up to the test and the results are not a reliable measure of whole class need.

In recognition that there may be many 'realities' out there to study and that one approach or method may not capture all of these, interpretive studies often use a variety of methods to ensure that a range of perspectives and interpretations are taken into account. These approaches are viewed as being framed by, and adding to, existing theoretical debates in a given area thus providing answers to research questions that may help others to understand similar (if not identical) situations.

Methods such as interviews and observations are common, which allow for a range of interpretations to be gathered and *triangulated* to ensure that any theoretical developments that result from the study are multi-dimensional and have taken a range of views and observations into account. This process is illustrated in Case Study 2.2.



Case Study 2.2 Exploring students' understanding of feedback

A lecturer notices that while student satisfaction survey results are very positive in terms of the promptness and quantity of feedback on assessed work, students appear to be significantly less satisfied with the effectiveness of the feedback they receive. The questionnaire used for the survey does not provide any insight as to why this is the case. She and her colleagues have spent a long period of time discussing the appropriate content and length of feedback and are struggling to come up with hypotheses. She decides that the only way to find out why feedback is deemed by students to be ineffective is to talk to the students themselves. While asking students directly what they view as effective feedback, and why, may provide one possible route to understanding this phenomenon, the lecturer is aware that this may simply highlight students' perceptions of what they think would constitute effective feedback rather than uncovering what is and is not working in current practice.

To address this, a three-pronged approach to gathering data is used. First, students are asked to explain their views on the role and purpose of feedback. Secondly, focus groups of students are asked to discuss what constitutes constructive and effective feedback. Finally, individual students are invited to sit down with a researcher using the 'think aloud'

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or cognitive interviewing technique, in which they read through feedback to a piece of work and tell the researcher how they are interpreting it in real time. In combination, these three approaches to data collection provide the lecturer with a clear understanding of students' views of, and approaches to, using feedback from which evidence-based changes to the department's feedback policy and practice can be made.

It is also worth noting the recognition, from within this paradigm, that research is only able to be communicated using the frameworks available at the time (the norms of linguistic and explanatory communication). To this end, Cousin (2009) makes the important point that our research (data collection, analysis and dissemination) can only 're-present' our observations and analysis within certain limits. At a very simple level, our experience of *riding* a horse will always be different from our re-telling of this experience (our narrative).

The paradigms in brief

As we have discussed, each of the two paradigms introduced in this chapter has different philosophical underpinnings which are useful to understand as they provide the basis for the particular research methods that you may come across in educational literature. Figure 2.1 (drawing on the work of Burton et al., 2008: 61–62) brings together the discussion so far to illustrate these differences in relation to the following questions:

- How is knowledge defined and created?
- What role do theory, research questions and hypotheses play in the research process?
- What is the role and status of the 'researcher' and 'researched'?
- What actually exists or can be said to exist (what is real; what is reality)?
- What constitutes validity, reliability and credibility in research?

What does this mean in practice?

Every disciplinary area, reflecting the paradigms that they align to, will have its own preferred and expected research methods to study a given phenomenon or research problem. Indeed, many academic disciplines will ensure that their students learn about and apply such disciplinary methods as part of their

undergraduate degree programmes. As you will have gathered from the discussion and case studies above, positivism emphasises research methods that focus on relatively objective approaches to gathering data (for example, surveys and experiments) and tends to draw on deductive means of analysis (statistical analysis and other systematic coding of data using predefined, controlled and objectively applied coding frames).

Positivism	Interpretivism
How is knowledge defined and created? (Epistemology)	
Knowledge is truth as defined by testable hypotheses. It is not created, only discovered or identified. The objective researcher is key to this process and occupies an 'expert' position in relation to the subject of the research	The construction of knowledge is a social process involving all who are involved in the research process. Knowledge is constructed from multiple perspectives and subjective biases are expected, recognised and identified.
What role do theory, research questions or hypotheses play in the research process?	
Theories are models of reality that have been constructed out of a series of tested hypotheses. They are testable and can be used to make predictions and form the basis through which research design is predetermined (<i>deduction</i>). They are 'true' as long as the consensus of research supports them and will be disproved should a 'better' theory or model come along.	Theories are ever-developing 'understandings' of the world around us. They form an overarching explanatory framework for the social world and research questions are contextualised by these frameworks. Theories are not disproved; rather they emerge and develop from a dialogue between research and theory (<i>induction</i>).
What is the role and status of the researcher and researched? (Positionality)	
The researcher is an objective observer that ideally has no influence over the researched. They design the experiment, control all of the variables bar the one of interest and eliminate confounding factors so as to ensure only the object of interest can influence the outcomes. That way the results and outcomes can be directly attributed to the variable factor and its role in the system can be described.	The researcher recognises the multiple perspectives that come to play on any given social situation and recognises how they (and their respondents) form an artificially created research setting and may all be affected by this. Issues related to status and power (for example, gender, role, ownerships, space, culture) are all deemed to be important in this process. Research subjects are given equal status in co-constructing understanding, knowledge and outcomes.
What actually exists or can be said to exist; what is reality? (Ontology)	
Reality is objective, rational and exists independent of observation or from the perspective of the observer. It is 'out there' waiting to be discovered and observed.	Reality is socially and culturally constructed; it has many dimensions and its particular form will depend on the frame of reference within which it is being observed.
What constitutes validity, reliability and credibility?	

(Continued)

Figure 2.1 (Continued)

<p>A valid theory must have no other plausible, simpler explanation and the chain of cause and effect should have no gaps or assumptions but be made of clear, logical, testable steps. Validity also refers to the means of measurement, whether they are accurate and whether they are measuring what they are intended to measure. A reliable theory must always give the same result under the same conditions. The replicability of results or observations is key, and central to this process is the method of data collection and the objectivity of the researcher.</p>	<p>Validity involves the recognition that there is confidence in the accuracy of the data (due to the methods of gathering and analysing data). Reliability comes not from a predictability of result through replication, but from a recognition and awareness of the multiple sources and ways of creating knowledge in any given situation. Although reliability and validity are treated separately in positivism, these terms are not viewed separately in interpretivism. Instead, terminology that encompasses both, such as credibility, transferability and trustworthiness are often used.</p>
<p>How can we communicate our findings?</p>	
<p>Research dissemination and communication techniques are rigorous and objective and present, using techniques which have been developed to ensure objectivity and a reliable representation of reality.</p>	<p>Research dissemination and communication techniques rely on the conventions and linguistic and explanatory frameworks available. As such we are unlikely to represent 'reality' as it happened, but only our linguistic or written interpretation of it, often within particular predefined parameters.</p>

Figure 2.1 An overview of key differences between the two paradigms

Conversely, interpretivism emphasises research methods that tend to focus on relatively subjective approaches (for example, interviews and observations) and tends to draw on inductive means of analysis, allowing *codes* (analytical themes and categories) to emerge from the data with no predefined analysis framework in place.

However, it should be noted that the overall research approach taken does not prescribe or negate a particular procedure or method being used. As our case studies in this chapter have illustrated, research studies in the field of education can, and often need to, adopt what is termed a *mixed-method approach*. This ensures that a range of different data on a given issue, phenomenon or practice are collected and analysed. It is now increasingly viewed, within social and educational research, as a 'third paradigm ... a platform of ideas and practices that are credible and distinctive and that mark the approach out as a viable alternative to [positivist and interpretivist paradigms]' (Denscombe, 2008b: 270).

Concluding thoughts

The main focus of this chapter has been to help you to think about the differences and similarities between positivist and interpretivist approaches

to research. Ultimately which of these approaches is most appropriate for your own educational enquiry project will be largely determined by the research question under scrutiny and the issue to be addressed. The approach needs to be carefully thought out and tailored to the task in hand: different questions or problems require you to take different approaches to find a solution.

What is important to recognise is that there is not one 'best' way to undertake educational enquiry. Reflecting on where you sit in relation to the two prevailing paradigms, as a result of your subject background, will enable you to identify what you do not know about different approaches to research. It will hopefully also help you to recognise that just because a particular approach is not familiar to you, does not mean that it is not a valid way of undertaking educational enquiry.

This notwithstanding, we highly recommend that your first steps into educational enquiry are taken within a familiar paradigm as this is likely to help you to engage most comfortably with this new field. Whether this means you primarily read educational literature from your subject area, focus on reports that use methods that you understand or use a method that is familiar to you from your own disciplinary research, does not really matter. Most important is the fact that your teaching developments become increasingly evidence-based. As you gain experience and confidence in this area of work and start to ask yourself questions about your own teaching practice, you will begin to see how a range of different data- and evidence-gathering techniques could be relevant to you and your work. There is no right or wrong way forward here. We argue only for an understanding of all of the options so that you can choose the right tool for the job, adapt the job to the tools in hand or partner up with someone (perhaps from a different discipline) who can bring different skills, understandings and approaches to a project to support the development of a mixed-methods approach.

Suggested further reading

Cohen, L., Manion, L. and Morrison, K. (2011) *Research Methods in Education* (7th edition). Abingdon: Routledge.



Denscombe, M. (2010) *The Good Research Guide: For Small-scale Social Research Projects* (4th edition). Maidenhead: Open University Press.

Robson, C. (2011) *Real World Research* (3rd edition). Chichester: Wiley.