Enquiry [supplementary chapter]

Introduction

The model of reflective teaching suggests that critical reflection and systematic investigation of our own practice should become an integral part of our daily classroom lives. In this way, we build professional expertise. This was the central idea of the great educationalist, Lawrence Stenhouse (1975; see also Pring, 2000). Such ideas now receive explicit, national endorsement. In particular, the General Teaching Councils of the UK have each emphasised the role of research in enhancing professional practice. In England governments have supported evidence-informed reflection as contributing to continuing professional development and the improvement of standards of teaching and learning. Further, the collection of classroom evidence has become a crucial element in the measurement of teaching performance for qualification, threshold and salary purposes.

With this increasing attention on the improvement and measurement of teaching performance, more and more teachers have begun to gather evidence about both classroom practices and pupil learning (McNamara, 2002). However, if such evidence is to be objective, valid and reliable, then an appreciation of the major issues involved in research and some knowledge of the main forms of enquiry and techniques available are essential. This chapter has been written as a simple introduction to such matters, and it does not aim to provide full guidance on technical aspects of research methods. Readers are strongly advised to follow up issues and techniques in which they may be particularly interested via *Key Readings* at the end of the chapter.

Turning to the work of professional researchers, the chapter offers an introduction to five distinct approaches – each of which illuminates the world in powerful and interesting ways. When consulting such work, it is helpful to have a basic understanding of the theoretical perspectives from which they derive, and Section 4 of the chapter will help in this.

1. Reviewing evidence of performance

This section reviews the performance evidence which is now collected at many levels – international, national, local authority, school, classroom and pupil. Pupil-level evidence of performance is revisited in supplementary chapter *Techniques of enquiry*.

The international economic pressures to which governments are subject are now considerable – particularly give the commitment to 'high skill, knowledge economies' as routes to future prosperity in the face of global competition. Bodies such as the Organisation for Economic Cooperation and Development (OECD) regularly provide comparative data analysis and advice on policy-making in education, as in other areas. Among the most influential contemporary examples of this is the PISA study (Programme for International Student Assessment) which is based on three yearly surveys of the performance of 15 year olds in some 60 countries. The surveys make particular reference to reading, mathematics and science but are not educationally naïve. For example, they attempt to measure the capacity of students to *apply* knowledge and skills and also try to gather data on students' motivation to learn, beliefs about themselves and learning strategies. The performance of each country is ranked in the reports, and this causes regular media interest and political pressure on governments. In a meta-analysis (Schleicher, 2007), six factors emerged as being influential on the performance of national education systems, and readers may recognize the resonance between these and policies of some governments. The OECD PISA factors are:

- High ambitions
- Individualised Learning
- Integrated educational opportunities
- Access to best practice and quality professional development

- Devolved responsibility to the school as the centre of action
- Accountability and intervention in inverse proportion to success

At another level, OECD's Centre for Educational Research and Innovation (CERI) promotes the use of evidence in explicit links between research, policy and practice (eg: CERI, 2007a). Again, international trends with UK echoes are evident, as with the latest publications promoting 'understanding of the social outcomes of learning' (CERI, 2007b) and reviewing 'neuroscience and education' which includes attempts to 'dispel neuro-myths' (CERI, 2007c).

In each UK nation, there has been a massive increase in the quality and quantity of statistical and other information gathered by governments and their agencies. Where this is strongly emphasised, as in the English education system, professional enquiries may to be stimulated by patterns or trends which become apparent within such data. However, all data must be carefully interpreted, and those from official sources are no exception.

In England, several official sources of evidence of performance may be identified. First, there are the reports from regular inspections of schools by the Office for Standards in Education (OFSTED). These are targeted on schools in particular need with a lighter touch for schools performing well. All inspection reports contain quantitative and qualitative data concerning the performance of schools and these reports are available to the public and can be found on the internet at www.ofsted.gov.uk/reports. Second, there is basic data on the characteristics of each pupil, the school, its community and local authority – collected by annual surveys. Perhaps most significantly, there is data on actual performance as measured by formal assessment procedures.

Teachers have always kept their own classroom records and made judgements about pupil progress. However, this has now become much more sophisticated and systematic through national systems to track and compare progress of individual pupils, schools and local authorities. Advanced software packages enable schools and local authorities to analyse their own pupil performance data against national performance evidence. Four main areas of analysis often explored:

- *School level analyses:* comparing the school's results in the key stages and optional tests against national comparatives.
- *Pupil level value added:* comparing the progress of individual pupils or groups of pupils between key stages with progress nationally taking account of prior attainment and other contextual factors.
- *Target setting:* assisting the school to set targets for individual pupils in the light of projections based on progress by similar pupils in the best performing schools with a similar baseline.
- *Question level analysis:* allowing schools to analyse by question attainment target and topic how their pupils performed in the national curriculum tests and optional tests compared to performance nationally.

For a good example of the application of national statistical data for performance review, take a look at the wide array of statistical data on School Education provided by the Scottish Executive at: http://www.scotland.gov.uk/Topics/Statistics/Browse/School-Education.

Such information, offering performance measures, value-added analyses, benchmarking and local, national and international comparisons, is a very powerful factor in improving the measured educational performance of pupils, teachers, schools and LEAs. It should be used as such and acknowledged for its strength in posing challenging questions (for further discussion, see Section 3.2 below).

However, reflective teachers will also want to consider if such measurements offer valid representations of everything that is worthwhile and valuable in education. Do they, for instance, satisfactorily embrace all aspects of children's development, or of creativity and the arts? Are there measures of significant motivational issues such as learning disposition, or attitudes to lifelong learning? How do they account for innovation, or processes of transition and development over time? Additionally, it is important to note that the way in which information is represented can impact on priorities. In fact, neither information itself, nor the way it is presented, can be regarded as being neutral. It does affect our perception of 'reality'. Thus, whilst using information on pupil, class or school performance as important sources of evidence, it is vital to remain aware of its strengths and weaknesses.

Internal, more collegially-based, forms of performance evidence are also available within schools, particularly in those with a strong learning culture or where staff support and mentor each other effectively. Insights into one's practice are particularly powerful when they come from those whom one respects, so that critical friendships, mentoring processes, performance reviews or even the outcome of school-based self-evaluation can each be an effective stimulus for further classroom enquiry. However, external evidence can uniquely challenge taken-for-granted assumptions and expectations within a school community.

2. Issues in planning classroom enquiry

Before any research can begin there are general decisions to be taken concerning the overall design of the study. The most significant of these design issues will be discussed below.

2.1 Which facet of classroom life should be investigated and why?

Whilst pupil-performance evidence may suggest particular strengths and weaknesses, identifying the key issues for investigation is sometimes a problem in itself. Dillon (1983) offered a threefold categorization of the kinds of problems that might be explored: existing problems which we can already recognize; emergent problems which we discover in our initial investigations; and potential problems which we anticipate might develop if we took a particular course of action. The issue chosen for investigation may emerge from any of these three types of problem.

Reflective Teaching in Schools explains the distinction between an experienced 'problem' (eg: unruly behaviour or high noise levels) and underlying 'issues' (eg: relationships or curriculum engagement) is important (see Chapter 3, Section 1.2). In particular, it argues that maintaining these distinctions encourages us to stand back a little and take time to really consider the most educationally productive areas to investigate further.

2.2 What evidence to collect and how?

This question is extremely important, for getting it wrong can easily lead to unintended distortion of findings. First, there is the question of what data to collect. The *sample* should be appropriate in focus and quantity to represent the range of events, pupils or phenomena that are to be studied. Additionally, data should be selected which are as *valid* as possible as indicators of what it is we really want to study. Judgements about which data to collect are thus crucial, but there is then a further challenge to collect data in a consistent and *reliable* way.

These three issues – sampling, validity and reliability – keep professional researchers worrying away throughout any programme of research, and reflective teachers should be just as aware. The harsh reality however is that what we choose to collect and the way we chose to collect it will directly affect what we find. It will therefore influence our understanding of the situation. One way of limiting this problem is to use several methods so that data on a single issue can be collected in several ways. This is known as 'methodological triangulation'. However, our choice must, to a

certain extent, be determined by what is feasible, given the time we can set aside to collect data and the time we can spend analysing it.

2.3 How can we analyse, interpret and apply the findings?

The basic strategy is to look for patterns, for places where regularities and irregularities occur. In order to do this, the data have to be sorted using various sets of criteria. All patterns of frequencies, sequences and distributions of activity are likely to be of interest. In addition, it is also important to look for spaces and omissions – where something does not occur which might have been expected. Where examples of co-occurrence exist, they can be misinterpreted as implying a cause–effect relationship. Such judgements should be viewed with caution until an appropriate test can be undertaken.

The important question of interpreting findings leads us into the issue of the relationships between research and the theoretical explanations to which it can lead. Such theorizing is an integral part of reflective teaching because it represents an attempt to make sense of data and experience. It is an opportunity to develop creative insights and an occasion to consider any discrepancies between 'what is' and 'what ought to be'. In a sense, we are all theorists in our everyday lives in the ways in which we develop hunches and use our intuition. This might be a starting-point, but as reflective teachers we would need to go further. In particular, we would want to generate theory relatively systematically and consciously. One way of doing this is to engage in a continuous process of data collection, classification and analysis of our own practice. This could be extended by making the process more public, through the involvement of colleagues as 'critical friends' at interim points. The 'theory' which emerges is likely to be professionally relevant and may also offer insights with regard to other cases. This kind of theory resembles what Glaser and Strauss (1967) refer to as 'grounded' in that it is developed from and grounded in our own experiences.

Such theorizing is particularly important for conceptualizing teaching and learning processes and for developing a language with which they can be discussed and refined. Indeed it has been argued that the lack of such an appropriate conceptual vocabulary has been a serious constraint on professional development (Hargreaves, 1978b). However, it is to be hoped that enquiry, discussion and critique will gradually lead to the development of a robust professional language for teaching and learning and be echoed in national frameworks for curriculum, pedagogy, assessment and accountability.

For the most part then, teachers are likely to be concerned directly with improving specific aspects of their practice. This calls for the use of a range of techniques for gathering data, which we will now review.

3. Learning from other research

Professional educational researchers have, over many years, produced a wonderful array of studies of classrooms, schools and educational issues. These offer excellent starting points for new school-based enquiries. It is helpful, however, to understand the background thinking behind different approaches to research. This section provides such guidance.

We will identify five major social scientific research approaches to educational research – the scientific, interpretive, action, critical and post-modern. This is a considerable simplification of a complex theoretical area (for instance, see Delanty, 1997), but will suffice for our purposes (for further simplification see Bassey, 1995). Enduring questions about the fundamental assumptions that underlie each of the research approaches nevertheless remain. For instance, which is more significant, measuring behaviours or understanding meanings? Is it better to do careful research before drawing conclusions for action, or should we try to improve practice by investigating it as we try things out? Do individuals act voluntarily to change their world, or do the circumstances into

which we are born determine the people we become? Can society be improved though the application of reason, or does the post-modern world make this enlightenment ambition impossible? Indeed, in studying patterns of social practice, should we be trying to describe, understand, improve, transform or deconstruct?

As we will see, most teacher-initiated, classroom-based research is likely to be influenced by action research, but there are also rich resources from other research traditions to be drawn on. These will contextualize classroom studies and illuminate issues of practice and policy in novel ways.

The table below provides a concise summary of the five research approaches that we have identified. In particular, we pick out their major practical purposes, characteristic research methods and forms of research knowledge. The following text explores such issues further.

Five major approaches to educational research

	Major practical purposes	**Characteristic research methods**	**Forms of research knowledge**
Scientific research	To provide an empirically 'proven' basis for improvement	Systematic designs, involving large, structured samples and gathering of quantitative data	Objectivist, seeking generalisations and explanations
Interpretive research	To inform judgement as a basis for improvement	Flexible designs, involving detailed, holistic case studies and empathic gathering of qualitative data	Subjectivist, describing cases and developing understanding
Action research	To directly improve practice through self-development	Cyclical designs, based on self-monitoring using a range of data in a practitioner's workplace	Evaluative, describing and analysing personal practice
Critical research	To illuminate inequalities and support emancipatory practice	Relational designs, using data eclectically to illuminate a dialectic between individual agency and social structure	Transformative, aspiring to reveal structural circumstances and support 'praxis'
Post-modern research	To deconstruct hidden power relations and affirm diversity	Reflexive, flexible and participatory designs, often interrogating cases from a particular stand-point	Perspectival, emphasizing complexity, uncertainty and difference

3.1 Scientific research

The classical ‘scientific' model is based on the research style that has served the physical sciences for many years. Its characteristic stages are to:

- recognize and define a problem
- develop a hypothesis

- design a controlled research procedure to test the hypothesis
- accumulate observations
- analyse the data
- interpret the data and form generalizable explanations

The hallmarks of the scientific model are, therefore, that the investigation has a hypothesis, which is testable and replicable, which provides an explanation and is generalizable. When such research is referred to as scientific, it is usually to highlight two features that are believed by some to be crucial. These are, first, that the way the research is carried out is ‘systematic' and, second, that the interpretation of the data collected is ‘objective'.

When this model is transferred to the social sciences, certain inadequacies are evident. For instance, it is very much more difficult to test a hypothesis in a classroom situation with the same rigour as one might expect in a laboratory experiment. It is more difficult because we cannot isolate the variables being examined and we cannot control all the myriad factors that might influence the test. In addition, we are dealing with human beings for whom we must have proper ethical concern. Further, because of the complexity of the classroom and because of the ethics of any such research, any ‘experiment' can never be exactly replicated. Researchers have had to rely on sophisticated statistical methods to try to measure the impact of variables.

Nevertheless, there has been a long tradition in education research of following the scientific model as far as possible. For example, much of the laboratory-based psychological testing and measurement research was of this nature (for example, Cattell and Kline, 1977). Similarly, the extensive work on teacher effectiveness in classrooms in the USA during the 1960s and 1970s used systematic observation techniques (for example, Flanders, 1970), and these are still positively regarded for some purposes (for example, Galton *et al.*, 1999; Pollard *et al.*, 2000). The most notable recent studies have been those by Hattie (2010) who synthesized findings about the effects of a range of pedagogic strategies.

In recent years there has encouragement of educational researchers to demonstrate ‘what works' to enhance the quality of policy-makers' judgements. The classical scientific paradigm is therefore enjoying something of a revival, for instance, through the use of school- and pupil-performance data, randomised controlled trials, naturally occurring experiments and longitudinal studies of large cohorts of pupils. Scientific reviews of previous studies are also accumulating at the EPPI Center in London. The Education Endowment Foundation (educationendowmentfoundation.org.uk) has provided very significant amounts of funding for randomised controlled trials and published its ‘toolkit’ of evidence-based outcomes.

However, the major criticism that has regularly been made of scientific research is that it fails to adequately address the subjective perceptions of the people who are the focus of the study. This concern led to the development of interpretive forms of research.

3.2 Interpretive research

Interpretive approaches to educational research have been strongly influenced by anthropology and the aspiration to understand, describe and analyse the cultures of particular societies and groups. Among the ethnographic methods that have been developed are participant observation and interviewing. These techniques are explicitly qualitative and are concerned with opinions and perspectives as well as observable facts or behaviour.

In the first place, interpretive researchers aim simply to describe the perspectives, actions and relationships of the people whom they are studying. Typically, they study a limited number of cases in depth and try to achieve a view of the whole situation in a way that is seen to be valid by the participants. This process often requires the personal involvement of the researcher and is rarely a

neat, linear progression of research stages. The approach is pragmatic and flexible, as the researcher seeks data and understanding (Burgess, 1984; Hammersley and Atkinson, 1983; Woods, 1986). The outcome of such research is usually a detailed case-study within which concepts, relationships and issues are identified and analysed. Glaser and Strauss (1967) provided the classic statement of the challenge of such work when they argued that interpretive sociologists should start from the grounded base of people's perspectives. Then, through the simultaneous collection, classification and analysis of data, they should develop systematic and theoretically refined perspectives of the social institutions and relationships that they study. Examples of such work are available, for instance, concerning primary education (King, 1978; Pollard, 1985, 1996; Hartley, 1985, 1992; Grugeon and Woods, 1990; Troyna and Hatcher, 1992; Nias, 1989).

Interpretive research has strengths and weaknesses, as does the scientific model. Indeed, in many respects, they can be seen as complementary. For instance, an interpretive researcher's ‘generation' of theory may be balanced by a scientific researcher's ‘testing'; qualitative data on perspectives may be balanced by quantitative data of behaviour; and a focus on detailed whole cases may be balanced by generalization from sampling across cases.

Whatever their differences, both the scientific and interpretive approaches to social science share an assumption that the prime responsibility of researchers is to describe and analyse social processes. Involvement in change is seen as a distinct, and secondary, consideration. For action researchers, this priority is reversed.

3.3 Action research

The term ‘action research' originates from Lewin (1946). His model for change was based on action *and* research. It involved researchers, with teachers or other practitioners, in a cyclical process of planning, action, observation and reflection before beginning the whole process all over again.

Further development of this model was instigated by Stenhouse (1975) and elaborated by Elliott and Adelman (1973) in their work with the Ford Teaching Project, based at the Centre for Applied Research in Education at the University of East Anglia. It was this generation of researchers who coined the term ‘teacher-as-researcher' to refer to the participants in the movement they helped to create. This encouraged teachers to assume the role of researcher in their own classrooms as part of their professional, reflective stance (see also Chapter 1, Section 2 of this book). In recent years, the Training and Development Agency for Schools in England and the General Teaching Councils across the UK have been strongly encouraging teachers to engage in classroom research as a means to raise standards of both professional development and pupil learning. This has been reflected in the existence of national schemes such as that for ‘chartered teachers' in Scotland, the National Teacher Research Panel in England and in the strong encouragement of reflective, classroom enquiry in policies for continuing professional development and through the Standards and TeacherNet websites in England.

Action research has also been developed extensively by curriculum specialists working alongside teachers as can often be seen from the publications of subject associations. There are now many excellent published examples of teachers' action research (e.g. Hustler *et al.*, 1986; Nixon, 1981; Webb, 1991). For an excellent, up-to-date summary of the strengths of action research, see Pring (2000).

Despite the professional support for this approach, we should note that it has been criticized for encouraging a classroom focus while wider, structural factors are accepted as unproblematic (e.g. Barton and Lawn, 1980, 1981; Whitty, 1985). On the other hand, (Carr and Kemmis, 1986) argue that such work provides a means of ‘becoming critical'. They suggest that action research involves the improvement of practice; improvement of the understanding of the practice by the practitioners; and improvement of the situation in which practice takes place (1986, p. 165). Indeed, they argue

that action research can be emancipatory – releasing practitioners from ‘the often unseen constraints of assumptions, habits, precedents, coercion and ideology' (Carr and Kemmis, 1986, p. 192). In this sense, action research can be seen as having a potentially ‘critical' edge.

3.4 Critical research

The most common forms of critical scholarship are sociological, though there are also examples in psychology, history, politics and other disciplines. Critical research can be distinguished from other approaches in several ways. In the first place, it is far more wide-ranging, for it is based on the assumption that specific situations, practices and perspectives can only be understood in relation to their historical, economic, cultural and political contexts. Comparative and historical studies provide one form of this (e.g. Alexander, 2000; Altback and Kelly, 1986; Green, 1990). In its sociological form it rejects narrow forms of scientific, positivistic empiricism which tend to ignore such wide-ranging factors, and uses various forms of theorizing to try to make sense of social structures, their processes and development (e.g. Bernstein, 1975, 1996; Bourdieu and Passeron, 1977).

Among a number of forms of theorizing, the most important influences on educational analysis have been structural Marxism (for example, Bowles and Gintis, 1976), Weberianism (for example, Archer, 1979; Collins, 1977) and cultural Marxism (for example, Apple, 1982). The latter offers ways of examining the tensions and dialectical forces of change or development within education and society. In recent years variants of such forms of analysis have been powerfully applied to educational policy-making (for example see Bowe, Ball and Gold, 1992; Lauder and Hughes, 1999; Whitty, Power and Halpin, 1998).

3.5 Post-modern research

One of the most significant research developments in recent years has been the emergence of ‘post-modernism'. The term itself challenges the seventeenthcentury Enlightenment philosophy that society could be constantly improved through the application of ‘scientific reason'. Indeed, such ‘modernist' assumptions can be seen as underpinning each of the approaches to research that we have previously considered. From the post-modern perspective, they may be seen as rather conventional, lacking in insight or, indeed, reinforcing the status quo through the production of ‘regimes of truth'.

Post-modernism highlights the consequences of social positioning and of the ways in which tacit forms of control become embedded in everyday life. A common research technique is the deconstruction of forms of ‘discourse' – a concept deriving from the French philosopher, Derrida. This can be extremely revealing. It might show, for instance, how some social groups, such as girls or black pupils, are ‘positioned' in classrooms as a result of taken-for-granted ways of thought, speech and interaction (for further explanation and an example of this in the case of race and racism, see Epstein, 1993). Analysis of this type has been used with particular effectiveness by feminist researchers such as Walkerdine (1988), Davies (1983) and Francis (1998). However, it is also effective at another level in analysing public policy and deconstructing the statements of politicians (e.g. Ball, 1994). In this scenario, policies presented with an appealing popular rationale may be shown to have underlying assumptions and effects which are more disturbing – the deconstruction of ‘spin'?

Post-modernists have developed some particularly powerful ideas about how people view themselves. Conventionally, it has been thought that each individual develops a sense of ‘self', of the person they are. Theorists such as Giddens (1991) suggest that, whilst this might have been a plausible assumption in stable societies, it is no longer tenable in the context of diversity, complexity and change in global societies today. In such circumstances, it is argued, many established and taken-for-granted social practices and ways of thinking have to be questioned – including the unitary view of self. The alternative position is to argue that people develop multiple views of self, ‘multiple

identities'. The global media, new technologies and communication systems, and the diverse cultural reference points which these enable, make it possible for people to join ‘imagined communities', to develop a variety of personal narratives, and to present themselves in different ways in new situations. The influence of culture(s) is obviously crucial here, but it is reinforced by the ready availability in wealthy societies of the accoutrements of diverse lifestyles, shop by shop. Who would you like to be today? However, some roles, such as teaching, may be more constrained. Maclure suggests that teachers use identity as an organizing principle in their work, but this is not without many contradictions (2001).

Post-modernism thus offers both a number of powerful research approaches and many challenges to conventional ways of perceiving the social world.

In this section we have identified five major forms of research: the scientific, interpretive, action, critical and post-modern. Whilst such theoretical ideas may seem abstract, they are connected to whole philosophies, paradigms and ways of thinking that are of enormous richness and importance. From a scientific viewpoint, your teaching and the children's learning is measured and quantified. But from the interpretive position the feelings, perspectives and social relationships of the people in the classroom become key issues. On the other hand, the critical theorist observes the classroom and offers an analysis of the historical constraints and emancipatory possibilities of both your role and that of your pupils. And the post-modern perspective challenges your discourse and seeks to deconstruct power relationships between yourself and the children that you really had not noticed. Meanwhile, working in what Schon called the ‘swampy lowland' of complex, professional practice, you devise an action research programme to directly improve your teaching and enhance the children's learning. This has enormous value, but it will have a lot more if you are also able to draw on the insights of other approaches and the accumulated knowledge of social science.

Conclusion

This chapter provides a brief introduction to some of the practical issues and techniques of undertaking classroom enquiry as reflective teachers. We have also located such practice within other, more social scientific research approaches. Readers planning sustained classroom enquiry are advised to follow up more detailed references.

In particular, we would stress that ‘doing research' is not just about collecting evidence. Indeed, the most important consideration is undoubtedly to conceptualize the issues and ask appropriate questions. More specifically, performance data about their school, classroom or pupils may throw up particular issues for investigation or interpretation. The enquiry process must be seen as a whole because initial assumptions will have significant implications for later findings. As indicated in Section 2 above, the research process should be as systematic as possible, involving clearly demarcated stages from research design, identification of research questions, issues or hypotheses, to data collection, data analysis, drawing conclusions and finally, after professional reflection, planning new actions. The process of data analysis is a particularly important phase in which to demonstrate open-mindedness and objectivity.

As we have also suggested, reflective teachers need to be able to relate their findings to those of others and to consider results in the context of the current debates about educational issues.

Key readings

The work of Lawrence Stenhouse provided a really important foundation for teacher research and evidence-informed practice. For an excellent insight into his work, see:

- Rudduck, J. and Hopkins, D. (eds) (1985) *Research as a Basis for Teaching: Readings from the Work of Lawrence Stenhouse*. London: Heinemann Educational Books

For very helpful examples of the worthwhileness of teacher research, see:

- McNamara, O. (2002) *Becoming an Evidence-based Practitioner: A Framework for Teacher Researchers*. London: Routledge.

- Clipson-Boyles, S. (2000) *Putting Research into Practice in Primary Teaching and Learning*. London: David Fulton.

Good introductory guides to carrying out research activity include:

- Blaxter, L., Hughes, C. and Tight, M. (2006) *How to Research.* Buckingham: Open University Press.

- Hitchcock, G. and Hughes, D. (1996) *Research and the Teacher.* London: Routledge.

- Denscombe, M. (2003) *The Good Research Guide for Small Scale Social Research Projects.* Buckingham: Open University Press.

Books that specifically support enquiries using classroom-based action research designs are:

- Hopkins, D. (2007) *A Teacher's Guide to Classroom Research.* Maidenhead: Open University Press.

- Hustler, D., Cassidy, T. and Cuff, T. (eds) (1986) *Action Research in Schools and Classrooms.* London: Allen & Unwin.

- McNiff, J. (2001) *Action Research: Principles and Practice.* London: Routledge.

A clear description of small-scale case-study work, and an analysis of its strengths and weaknesses, is:

Bassey, M. (1999) *Case Study Research in Educational Settings.* Buckingham: Open University Press.

Gathering data from children requires particular care. For this, see:

- Christensen, P. and James, A. (eds) (2000) *Research with Children: Perspectives and Practices.* London: Falmer Press.

All enquiries, of whatever type, must address a similar set of key quality issues if the term ‘research' is to be justified. For an accessible introduction to these challenges see:

- Denscombe, M. (2002) *Ground Rules for Good Research: A 10 Point Guide*. Buckingham: Open University Press.

For more advanced insights into the work of professional educational researchers, see:

- Pring, R. A. (2004) *Philosophy of Educational Research.* London: Continuum

- Scott, D. and Usher, R. (1996) *Understanding Educational Research.* London: Routledge.

- Robson, C. (2002) *Real World Research.* Oxford: Blackwell.

The commitment of professional, reflective, evidence-informed practice can be contrasted with the determination to use more systematic, 'scientific' forms of research to identify 'what works' in any circumstance as a basis for policy prescription. To understand the attraction of this argument, see for instance:

- Davies, H. T. O., Nutley, S. M. and Smith, P. C. (2000) *What Works? Evidence-based Policy and Practice in Public Services*. Bristol: The Policy Press.

The Teaching and Learning Research Programme has created open-access, on-line resources to support the conduct of educational research. These draw on the expertise of leading UK researchers. To view these, access:

http://www.researchcatalogue.esrc.ac.uk/grants/RES-139-34-1003/read/outputs