

Educational Research

Taking the Plunge

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Chapter 1

What is research?

Introduction

Since 2010 there has been an increasingly wide interest in the role of research in education, particularly in schools. Initially this interest tended to emphasise the idea of uncovering ‘what works’ in classrooms. Such an approach is not surprising as there is a ready appeal in seeing research as a medium for ‘solving’ issues in schools, and particularly in classrooms. The impression can be given that research will ultimately lead to a recipe book from which we can find the ‘correct’ ways to teach or ensure good behaviour in lessons. However, research is a complex process which can be approached in many different ways to offer insights into a very wide range of questions. We argue that research can play an important role in offering ideas and insights into educational issues, but it should always be understood and utilised through the filter of professional values and judgement; it should never be seen as a recipe book to be slavishly followed.

In 1983, Donald Schon wrote *The Reflective Practitioner*, which was an argument for positioning reflective practice at the centre of teacher work. He identified two forms of reflection:

- *Reflection in action*: The ability we develop within our own practice which focuses on our constant assessment about what we’re doing as we do it. When we assess that something is not working, we use our experience and knowledge to alter activity in the moment. This often occurs when something out of the ordinary happens, giving us a reason to alter our practice as the event or activity unfolds.
- *Reflection on action*: This is based on describing, analysing, reviewing and evaluating practice beyond the immediacy of the classroom to gain a deeper understanding of our work, particularly to help identify areas for improvement in the future.

Reflective practice has become an important activity which teachers are expected to undertake to improve their pedagogy. Whilst valuable, these

activities predominantly rely on individual perception. There is little to ensure that what we think is an answer to our developmental needs is indeed as we see it, as our own biases and perceptions can give us a very partial view of the challenge or issue we are facing. If we decide we want to gain more structured, and possibly less biased, insights from our reflections as a way of interrogating our own perceptions, or if we want to engage with evidence from beyond our immediate classroom experience, then we are beginning to move from a reflective process to one of research.

In writing this book, we have two main aims in mind:

1. To introduce some of the basic concepts and knowledge underlying an understanding of research. This is important as research has a specialist language all of its own. To engage with and critique research we need to be able to understand how and why a piece of research has been developed in the way it has.
2. To provide some basic frameworks for developing your own small-scale research projects. As we will demonstrate later in this chapter, we believe that one of the best ways to deepen your understanding of research is to carry out your own!

We will therefore blend together discussion of some of the main concepts and knowledge concerning educational research with some basic frameworks and approaches for completing your own projects.

What are some of the foundations of good educational research?

If research is not synonymous with professional reflection, we need to try to define what it is and what some of the basic features of good research might be. There is no single, accepted definition of research across all subjects (more on that later), and even within education there are a large number of different approaches and traditions which understand

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research in different ways. Below we offer a definition merely as a starting point to aid discussion of what good research might include:

The systematic investigation into, and study of, materials, sources, situations and people in order to explore and understand identified issues with the aim of reaching new insights.

This definition highlights the central notion that all research should be, in some way, systematic. But what do we mean by 'systematic'? We take this to mean that the work being undertaken has included some form of thoughtful planning, orientated around a clear focus and with a logical set of activities planned out to capture 'data'. The research activities which are developed will vary widely depending on the focus of the research. One researcher might be interested in a historic question which requires a lot of work with documents, whilst another may be interested in classroom practice requiring very different, and perhaps multiple, tools. Each research project requires careful consideration of how and why data are collected, and the underlying assumptions on which the research is based.

Research is about exploring and understanding issues. As such, it should not be seen as a linear endeavour that automatically provides continuous improvements to practice. Research can lead to results which are unexpected (often seen as 'negative') or find little evidence of change or improvement. In either case, the research should not be seen as a failure; all insights are important, and frequently it is research which turns out to be counter-intuitive that leads to new, interesting questions and foci for further work. To ensure we don't attempt to second-guess and produce insights which fit with our preconceptions, we need to develop logical and carefully considered approaches to research – approaches which we will eventually share transparently with others. The full disclosure of our research approaches when reporting is crucial so that readers can fairly critique and engage with our work. Much of the research in education will add to our understanding of practical issues, but rarely, if ever, will it give us absolute truths or laws. This is why we suggest that research can help us to gain new insights, but it rarely leads to solid, universal conclusions.

From this consideration of the nature of research, we will outline what we think are the features of good research in education. These principles underlie our discussion of research methods throughout this book:

- *Focuses on a definable issue or problem.* Research needs to be focused on a clear area for exploration. If it is too broad it becomes unwieldy which makes it difficult to collect meaningful data. In attempting to develop a coherent focus for research, the appropriate use of research questions is extremely important.
- *Emphasises an ethical approach.* All research in education should be developed with the explicit understanding that it should be an ethical process. The vast majority of research in this field includes human participants in some way. Our research should always protect the well-being and dignity of both participants and researchers. This is often the stated purpose of research ethics, the 'legal' aspects of which are the primary focus of review panels. However, we stress that ethical research should also focus on the need for honest and transparent reporting so that work can be read critically and fairly by peers. This includes the reporting of research approaches, any conflicts of interest and the context of the research. It also requires that when we rely on the work of others, we reference them fully so that they are given due recognition for their work.
- *Gives a clear outline of the context of research.* The process of education is highly complex. Therefore, when writing about research it is always important to give readers a clear context (albeit anonymised). If a small-scale study is completed with a class of 12- and 13-year-olds in an inner-city school composed predominantly of more able students, then it is essential that the reader has this information so they can understand the context of the data gained. This also allows the reader to consider the degree of relevance of the research to their own situation. It is a central part of honest and transparent reporting and educational debate.
- *Uses research literature to inform the research design.* The vast majority of research builds on work already done. It is important to begin to gain an understanding of the research which has been published previously in an area of interest. We need to be good at reading and

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assessing research so that we can judge the degree of evidence on which we might build our own work.

- *Gives a clear outline/discussion of the methodology and methods which have been used to collect data.* Ethical research should make the methodology and methods which have been used to collect data transparent. Readers need to know how our research has been carried out as this is crucial to being able to interpret the data, and therefore engage critically with any claims that are made. By explaining decisions concerning preferred methodologies we give an insight into the way the research is positioned and the nature of the claims made.

An account of the data collection tools (methods) used is equally important for the same reasons. If a study has used interviews, are the questions reported so that we can judge the level of neutrality? Where observations are used, is the focus and method of data capture explained? If these issues are not thought through and reported then a considered, critical reading of the research cannot be achieved.

Where research occurs at a meta-level – for example, through the use of literature reviews – it should include a methodology outlining the search criteria, filtering processes and how publications have been analysed. If a literature review merely presents an area of research with no methodology, it needs to be read with caution as we have no way of assessing its validity.

- *Uses appropriate methods which clearly link back to the initial issues/problems and research questions.* Well-conceived research will be able to make clear how particular methods help in investigating the chosen issues/research questions; this gives the research coherence.
- *Analyses collected data in a transparent way.* In the same way as it is important to carefully consider the reporting of methodology and methods, so it is with analysing the data which have been collected. Analysis is often not considered to the same level of detail as methodology and data collection, but it is crucial in ensuring a reasoned and valid consideration of the data, particularly when trying to minimise biases and the selective use of data. To make the

process transparent, it is again important to report how data have been analysed.

- *Develops explanations and discussion derived from the data.* Good research develops a clear discussion of the data collected. This is at the centre of reporting research, in the same way as it is when the interpretation of the project is developed. It is crucial that explanations emerge from the data provided and are not dissonant with the evidence. In addition, the discussion of the data should be related to the literature with which you have engaged and which is the foundation on which the research study rests.
- *Offers measured insights/conclusions.* Good research is measured in the claims made. Small-scale research cannot easily make claims which can be scaled up; in other words, an analysis of one cycle of action research focusing on, for example, improving questioning practices in one class, cannot act as the basis for national policy. However, small-scale research can still provide valuable insights for practitioners by providing useful information as to where good practice might be found. Within large-scale research, projects often rely on quantitative analyses. Insights here tend to be based on statistical manipulations which offer a constructive exploration of patterns and trends. However, in-depth explanations are sometimes more problematic as this type of research is more likely to provide answers to the 'what' rather than the 'why'.

All research has potential shortcomings because no approach is perfect or has all of the answers in a particular area of interest. Often, deep insights occur through the long-term application of a number of qualitative and quantitative approaches which augment understanding and give progressively fuller and more critical perspectives on an issue.

The interdisciplinary nature of educational research

Many academic disciplines have a generally well-understood and accepted philosophical approach to investigation and knowledge generation. As a result, they do not make their philosophical underpinnings an explicit element of training; the underpinning assumptions of what constitutes knowledge and how it is 'found' are more often implicit in the research methods. However, education is not a discipline – it is interdisciplinary (see Figure 1.1). This means that education as an area for enquiry is impacted on by different disciplinary perspectives which overlap.

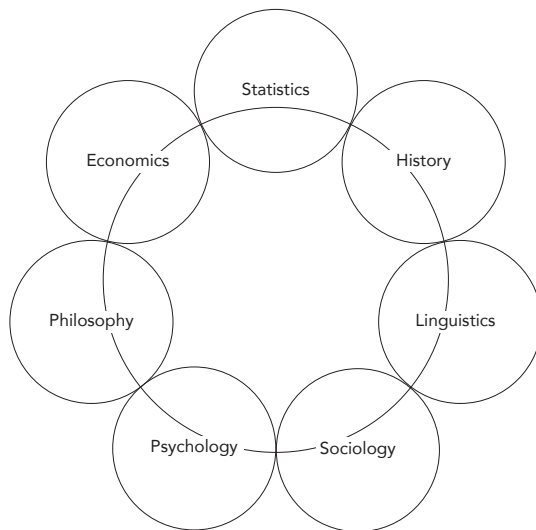


Figure 1.1. Education as an interdisciplinary field – many disciplines converge on educational interests.

This is perhaps what leads to debates about, and sometimes denunciations of, different methodological approaches within educational research. However, it is important when engaging with research in education that we attempt to understand and embrace these different views of knowledge and the methodologies which emerge. It is by developing an understanding of these different perspectives that we can begin to positively engage with and critique the work of others. In this sense, being 'positively critical' means to understand and engage with research

from other philosophical traditions, even if our own beliefs are quite different. In the long run we may attach less importance to such work, or even discount particular perspectives, but by widening our horizons and developing multiple perspectives our thinking will be more informed and rigorous.

Becoming research literate

Research methods is an area of rich conceptual and knowledge content. This means that to develop a deep, critical understanding takes time and involves a great deal of sustained effort. To read and engage with research at a critical level requires a level of research literacy – that is, the ability to understand the positioning of research, the assumptions underpinning it and how this has influenced the resultant change. We argue that to develop a good level of research literacy requires three elements (summarised in Figure 1.2):

1. *Knowledge.* A working knowledge of research methods, from philosophical traditions/foundations to the practicalities of research design, is crucial for understanding both others' research and also for developing our own research projects. Without any knowledge we are at serious risk of producing poorly designed and, hence, unreliable and invalid research. When reading research, a lack of knowledge also leads to an inability to assess the degree to which we are able to trust research outputs.
2. *Threshold concepts.* The theory of threshold concepts has become increasingly popular in higher education research since Meyer and Land popularised the idea in the early 2000s (see Meyer and Land, 2003). It rests on the notion that disciplines have particular conceptual frameworks and that some of the concepts involved are central and transformatory to our understanding. However, these concepts are often hard to understand well and may take much time and effort to engage with deeply. Research methods is no exception. Some of the concepts which are central to gaining a critical understanding of research methods include ontology, sampling and methodology, to name just a few. We therefore need to spend time developing our understanding of these ideas if we are

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to engage critically with the work of others and develop our own research projects.

3. *Application.* Developing and carrying out research projects is not a pursuit for everyone. We don't believe that primary research activity is necessary for all educators, even if individuals are keen to develop their research literacy. However, the development of small-scale research can have advantages for developing a wider research literacy. Firstly, undertaking small-scale research is an experiential learning process in its own right, requiring us to understand how some of the concepts and knowledge we might have read about actually come together to form a process of investigation. To read about research allows for a good level of theoretical understanding, but to try it out gives us a deeper perception. It also leads to another important aspect of application – that of gaining insight into the complexities of decision-making, development and the messiness of research as a 'live' activity. By applying some of our emerging understanding, we can build a more critical and nuanced perspective when reading the work of others.

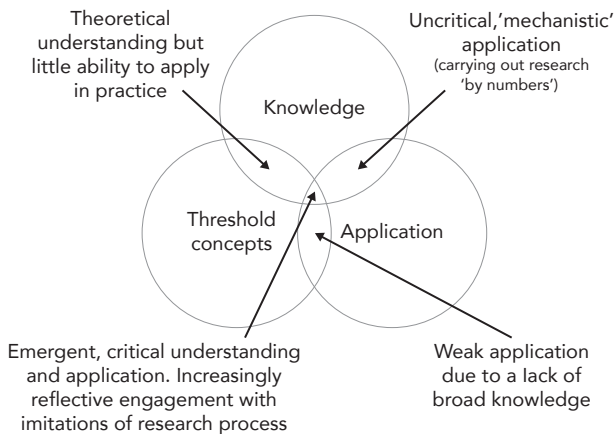


Figure 1.2. A simple model of research literacy.

So how do these aspects of research literacy come together? Figure 1.2 shows intersections between the various aspects. If we read about research methods and/or read research reports with no consideration of the practicalities or underlying conceptual frameworks used, then

the level at which understanding takes place can be seriously compromised. However, even if there is an understanding of both knowledge and basic underlying concepts, there remains an inability to consider them in relation to the practicalities of actually carrying out research. If such practicalities are not understood and engaged with, the reading of research remains an essentially theoretical pursuit.

At the same time, conceptual frameworks offer a deeper coherence to knowledge. If this consideration of underlying and critical principles is absent, any attempt to use a knowledge base as a starting point for application has the potential to lead to 'mechanistic' engagement with research application. It is the deeper, conceptual understanding – together with a wide and well-developed knowledge base – which can, with experience, lead to well-considered and rigorous research projects.

However, we do need to accept that meaningful engagement with research across these three spheres takes time and experience. Research is a complex and highly contested area of human activity; becoming a good researcher, or even becoming research informed (i.e. having an ability to read and critically engage with research), takes time. Therefore, we would argue that it is perfectly possible to attain a level of research literacy by reading and reflecting on research, but to gain a deep, critical appreciation requires us to actually undertake research, however small scale. Whether the extra insights and engagement are worth the added time and effort is a question only answerable by the individual, in part, in relation to what they hope to gain from their interest in research.

Introduction to the remaining chapters

This book is offered as a discussion of some of the basic ideas in educational research, meant for those with little or no research experience. We sketch out some of the main features and concepts in educational research, whilst also offering advice on constructing single, small-scale research projects. As such, we hope that it allows readers to engage with some of the basic conceptual elements of research as well as offering a foundation of knowledge and application. This is important to us for two reasons. Firstly, we intend that those who wish to develop research-informed practice (i.e. to engage with research through the work of

others) will gain some useful insights into the research process. Secondly, for those who actually wish to develop their own research, we hope it offers some basic frameworks and approaches to help create and execute simple, small-scale research projects.

The remaining chapters outline and discuss some of the main features related to understanding research and undertaking simple projects.

- Chapter 2 considers the role of ethics in educational research. We have started the main body of this book with ethical issues due to the importance we believe this has not only in designing research but also in acting as a basis for all engagement with research.
- Chapter 3 considers the central aspects of criticality in research, both in terms of reading research and also beginning to write well-considered and carefully constructed reports about research.
- Research is often the result of particular interests and questions individuals or teams of researchers develop from their own reflections and interests. Chapter 4 outlines the importance of context and interest as drivers for creating small-scale research and for engaging with the research of others. Having considered the contextual, we then go on to discuss how this might translate to research questions, which are the foundation for research project development.
- Chapter 5 explores some of the philosophical foundations of research before going on to outline some of the main methodological traditions within educational research. These are the frameworks which are often identified and outlined in research papers, and therefore some understanding of their characteristics and relative strengths and weaknesses will help both understanding when reading research papers and also in the development of basic frameworks when designing small-scale projects.
- Chapter 6 outlines some of the main techniques which are used to capture data. As such, it acts as a basic guide to data capture in small-scale research as well as providing a basis for understanding research literature.
- Chapter 7 tackles the difficult subject of data analysis. This chapter does not provide detailed instructions for carrying out analytical

processes which can be used in educational research, but it does provide an overview to help with orientation.

- Chapter 8 offers some ideas concerning how to approach the development of simple small-scale research projects.

Here's a must for the staff library; useful for any staff thinking of taking a higher degree – and there are many – and vital to a school keen on using research findings and in setting out to base their improvement on practical school-based research.

**Sir Tim Brighouse, former London Schools Commissioner and
Chief Education Officer for Birmingham and Oxfordshire**

In capturing an education zeitgeist, this book provides teachers with a thoroughly engaging, much needed introductory guide to refer to when engaging with education research. I particularly like the fact that ethical issues are given precedence right at the beginning of the book. As the authors say, all too often ethical considerations can be given scant regard or seen as a procedural, box ticking exercise when conducting research. Yet by foregrounding its importance, Phil and Joan are developing a crucial, ethical awareness in the reader from the outset of the book. Practising what they preach and starting as they mean to go on! This is a book well worth reading for any teacher thinking about dipping their toe in the education research waters or even those who simply want to find out more about the subject.

**Dr Matt O'Leary, Reader in Education, Centre for the Study of Practice and
Culture in Education (CSPACE), Birmingham City University**

This book is well-structured and considers all the main points first-time researchers need to consider. The examples are particularly beneficial for students studying short research modules, as seen on our PGCE course, and the section on ethics provides simple, clear explanations of the important aspects to consider. I would certainly recommend this to students I am teaching and supervising as an accessible introduction into this aspect of academic writing.

Jenny Fogarty, Senior Lecturer, Division of Education, London South Bank University

Educational Research summarises all the areas for a new researcher to consider. It is a very accessible resource, not only because of the way it is written but also because of the examples and case studies which the authors provide. These show the complexity and also the rewards of undertaking research. Particularly helpful are the summaries of other key books on research.

Mary Myatt, school adviser and blogger marymyatt.com

A comprehensive, clear and accessible guide to how to conduct research, particularly single, small-scale projects, in a responsible and rigorous way.

Jill Berry, former head teacher, educational consultant and researcher

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