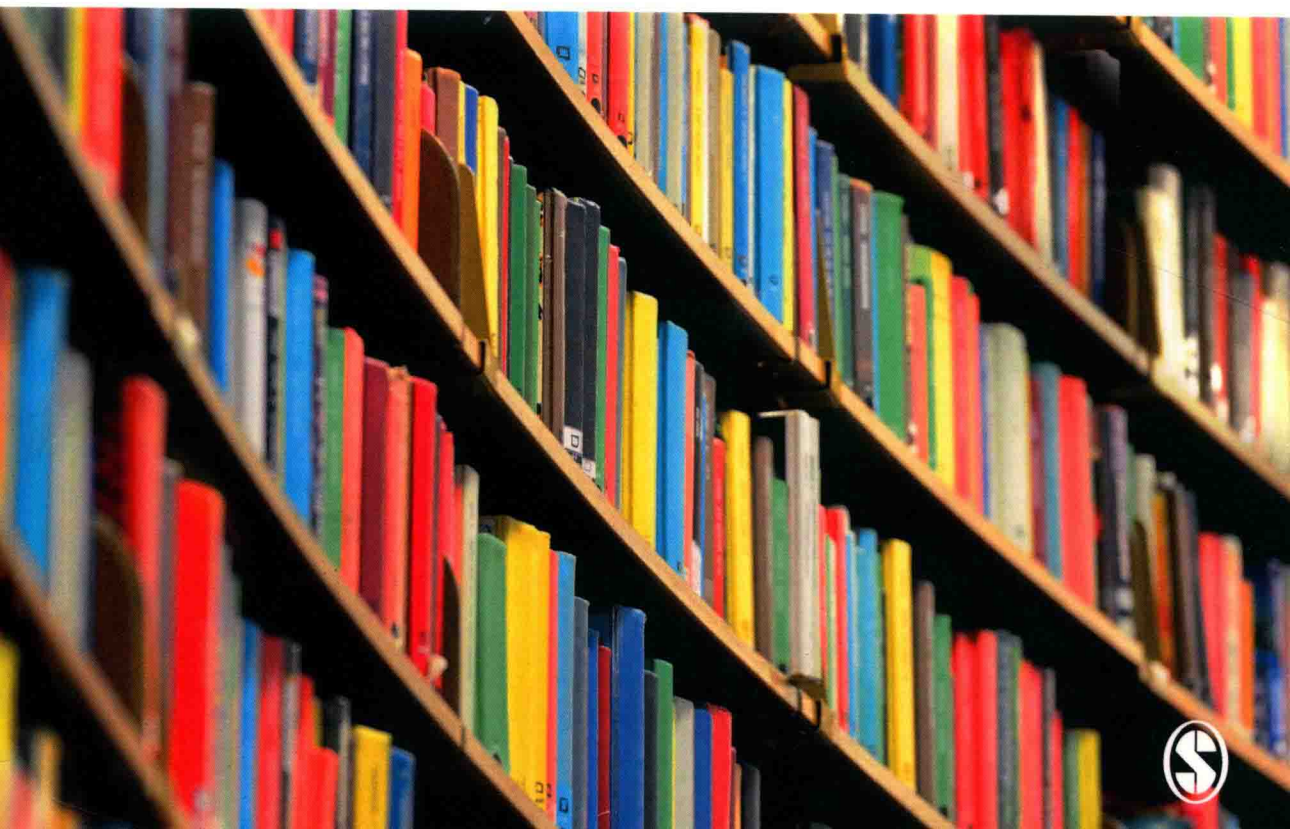


3rd Edition

School-based Research

A guide for education students

Edited by **Elaine Wilson**



3rd Edition

School-based Research

A guide for education students

Edited by **Elaine Wilson**

常州大学图书馆
藏书章

 **SAGE**

Los Angeles | London | New Delhi
Singapore | Washington DC | Melbourne



Los Angeles | London | New Delhi
Singapore | Washington DC | Melbourne

SAGE Publications Ltd
1 Oliver's Yard
55 City Road
London EC1Y 1SP

SAGE Publications Inc.
2455 Teller Road
Thousand Oaks, California 91320

SAGE Publications India Pvt Ltd
B 1/1 Mohan Cooperative Industrial Area
Mathura Road
New Delhi 110 044

SAGE Publications Asia-Pacific Pte Ltd
3 Church Street
#10-04 Samsung Hub
Singapore 049483

Editor: James Clark
Assistant editor: Robert Patterson
Production editor: Nicola Carrier
Proofreader: Sharon Cawood
Indexer: Silvia Benvenuto
Marketing manager: Lorna Patkai
Cover design: Sheila Tong
Typeset by: C&M Digitals (P) Ltd, Chennai, India
Printed and bound by
CPI Group (UK) Ltd, Croydon, CR0 4YY

1st Edition published in 2009 and reprinted in 2009 (twice) and 2010 (twice).
2nd Edition published in 2012 and reprinted in 2015 (twice).

© Editorial Arrangement Elaine Wilson 2017 Ch1 © Elaine Wilson 2017 Ch2
© Elaine Wilson 2017 Ch3 © Elaine Wilson 2017 Ch4 © Elaine Wilson 2017
Ch5 © Kris Stutchbury 2017 Ch6 © Elaine Wilson 2017 Ch7 © Elaine Wilson
2017 Ch8 © Helen Demetriou 2017 Ch9 © Keith S. Taber 2017 Ch10 © Paul
Warwick & Roland Chaplain 2017 Ch11 © Elaine Wilson 2017 Ch12 © Michael
Evans 2017 Ch13 © Mark Winterbottom 2017 Ch14 © Elaine Wilson 2017
Ch15 © Michael Evans 2017 Ch16 © Ros McLellan 2017 Ch17 © Elaine
Wilson 2017 Ch18 © Elaine Wilson 2017 Ch19 © Keith S. Taber 2017 Ch20 ©
Christine Counsell 2017

Apart from any fair dealing for the purposes of research or private study, or criticism or review, as permitted under the Copyright, Designs and Patents Act, 1988, this publication may be reproduced, stored or transmitted in any form, or by any means, only with the prior permission in writing of the publishers, or in the case of reprographic reproduction, in accordance with the terms of licences issued by the Copyright Licensing Agency. Enquiries concerning reproduction outside those terms should be sent to the publishers.

All material on the accompanying website can be printed off and photocopied by the purchaser/user of the book. The web material itself may not be reproduced in its entirety for use by others without prior written permission from SAGE. The web material may not be distributed or sold separately from the book without the prior written permission of SAGE. Should anyone wish to use the materials from the website for conference purposes, they would require separate permission from us. All material is © Elaine Wilson, 2017.

Library of Congress Control Number: 2016953222

British Library Cataloguing in Publication data

A catalogue record for this book is available from the British Library

ISBN 978-1-4739-6902-5
ISBN 978-1-4739-6903-2 (pbk)

At SAGE we take sustainability seriously. Most of our products are printed in the UK using FSC papers and boards. When we print overseas we ensure sustainable papers are used as measured by the PREPS grading system. We undertake an annual audit to monitor our sustainability.

FOREWORD

Most teachers, in my experience, want to improve: it is part of the professional self. They differ, of course, in the routes they choose to take towards this goal. In the search for insights into how they can continue to develop, some become critical readers of other people's research and ideas. But, eventually, many conclude that the best way of understanding their own practice, and that of the institutions in which they work, is to engage in some kind of research. This book is intended to help teachers who want to embark on that journey.

Looking back, it is hard to believe that, less than 30 years ago, the idea of teachers researching their own practices was seen as controversial. Lawrence Stenhouse, who is widely recognized as the founding parent of teacher research, identified a number of objections to their involvement that were prevalent at the time. First, there were questions about 'the accuracy of teachers' self-reports' – 'teachers', some argued, 'do not know what they do'. Second, they were likely to be 'biased' – they had too much of an interest in the outcomes to be objective. Third, they were 'theoretically innocent'. And, fourth, put bluntly, they lacked the time – they 'taught too much' to achieve the kind of intellectual distance that research required (reported in Rudduck and Hopkins, 1985: 15–16).

This book is dedicated to the memory of Donald McIntyre and Jean Rudduck. Both were Professors of Education at Cambridge, and both were convinced that teachers had crucial roles to play in research. Indeed, they dedicated their lives to this cause. As central architects of the revolution in education that took place here at the turn of the millennium, they sought to harness the full weight of the university to this endeavour. Sadly, both passed away in 2007, but not before each, in their different way, had made major contributions to the development of research-based approaches in schools.

For McIntyre, the key to educational progress lay in developing teachers' 'craft knowledge' (Brown and McIntyre, 1993). By this, he meant the nexus of understandings that link teachers' knowledge of what to teach (their subject or subjects), how to teach it (their pedagogical knowledge) and to whom (their understanding of their pupils). Researching these practices, rigorously and systematically, offered a way forward. In a

series of action-based projects, McIntyre explored ways of engaging with teachers and schools around *their* concerns and, crucially, in partnership with them.

Rudduck started in a similar place. Her early work supported teachers in a variety of research endeavours, most notably in relation to understanding how to implement changes to classroom practice (Rudduck, 1991). Over time, however, she began to shift her attention from a teacher-centred view of educational innovation towards a more pupil-centred one. Her last book, written with Donald McIntyre shortly before she died, explored the numerous ways in which pupils and teachers can work together to bring about practical changes in classroom conditions. It is a powerful testimony to the importance, both of taking teachers seriously and of giving weight to 'pupil voice' (Rudduck and McIntyre, 2007).

But can the insights of teachers and their pupils count as a contribution to knowledge, the central canon on which universities are organized? Or should teachers just sit back and let others determine how they teach? Stenhouse was adamant that teachers had a central role to play – and that governments and policy-makers neglected them at their peril.

He defined 'research' as 'systematic and sustained enquiry, planned and self-critical, which is subject to public criticism and to empirical tests where these are appropriate' (Rudduck and Hopkins, 1985: 19). After three decades of teacher-led research, his definition, and the challenges that it implies, still rings true. If schools are to engage with their own futures in a planned and coherent way, then they need the quiet but insistent voice of research. They need to invest in their own development by encouraging their members to acquire the basic tools – key ideas, key concepts and key methods.

As we move towards the vision of a research-based profession, there is quite a lot to learn and a great deal to fight for.

*John Gray
Cambridge*

ABOUT THE EDITOR

Elaine Wilson is a Senior Lecturer in Science Education at the Faculty of Education, and Fellow of Homerton College at the University of Cambridge.

She was a secondary school chemistry teacher in Bath and Cambridge and was awarded a Salters' Medal for Chemistry teaching while working at Parkside Community College in Cambridge.

Elaine teaches secondary science PGCE, Masters and Doctoral students and has recently taken on the roll of doctoral programme manager. She has received two career awards for teaching in Higher Education, a University of Cambridge Pilkington Teaching Prize and a National Teaching Fellowship.

Elaine led a team who carried out a whole country teacher education reform and development programme, and is part of an international research project working with educators in Kazakhstan.

NOTES ON CONTRIBUTORS

Roland Chaplain has recently retired from his position as Senior Lecturer at the Faculty of Education, University of Cambridge. He has published books and papers related to stress and coping in schools (staff, managers and pupils), and their relationship to school effectiveness, particularly in respect of social behaviour. Related areas include stress and psychological distress among teachers, head teachers and pupils, managing pupil behaviour and school improvement. In 2006, he wrote *Challenging Behaviour* in collaboration with Stephen Smith of the University of Florida, utilizing results from research in England and the USA in the application of behavioural and cognitive behavioural approaches to develop self-regulation and problem-solving in pupils.

Christine Counsell was a Senior Lecturer at the Faculty of Education, University of Cambridge, where she ran the history PGCE course. She now leads the Education team at Inspiration Trust. Christine taught history in state comprehensive schools, holding posts as Head of History, Head of Humanities and, finally, as a Deputy Head in Bristol. As Advisory Teacher for Gloucestershire Local Education Authority (LEA) and later as PGCE tutor for the University of Gloucestershire, she broadened her expertise into primary education. Her best-selling pamphlet, *Analytical and Discursive Writing at Key Stage 3* (1997) enshrined her passion for developing language and literacy through history. She has carried out in-service training and consultancy for primary and secondary teachers in over 80 local authorities and has been invited to address teachers and teacher educators all over the UK and Europe, including Cyprus, Estonia, Ireland, Italy, Malta, the Netherlands and Norway. Christine is editor of the Historical Association's journal, *Teaching History*. She has published widely in history education and teacher education and is currently researching the experience of school-based PGCE mentors.

Helen Demetriou has been a Research Associate at the Faculty of Education, University of Cambridge, since obtaining her PhD in developmental psychology from

the Institute of Psychiatry, University of London, in 1998. During this time, she has also lectured in developmental psychology at Cambridge University. Her research has included: *Sustaining Pupils' Progress at Year 3* (for Ofsted); *Boy's Performance in Modern Foreign Languages* (for QCA); *Friendships and Performance at Transfer and Transition* (for the Department for Education and Skills, DfES); *Consulting Pupils about Teaching and Learning* (Economic and Social Research Council, ESRC-funded project); and *How Young Children Talk about Fairness* (internally funded). Helen is currently working with Elaine Wilson on a Gatsby-funded project: 'Supporting Opportunities for New Teachers' Professional Growth'.

Michael Evans is a Reader at the Faculty of Education, University of Cambridge. He has extensive experience in foreign language teacher education and in the teaching and supervision of doctoral students in language education. He directs the MPhil in Research in Second Language Education. He is currently co-director of a national study of the impact of government initiatives on the provision and practice of language teaching at Key Stage 3 in England. He has published on a number of second-language education topics, drawing on empirical research conducted in secondary schools. He is co-author of *Modern Foreign Languages: Teaching School Subjects 11–19* (2007).

Ros McLellan is a Lecturer at the Faculty of Education, University of Cambridge. Ros is currently researching teacher's well-being in Kazakhstan. She has published work on 'Raising Boys' Achievement', 'Subject Leadership in Creativity in Secondary Design and Technology' and teachers' well-being. Ros works collaboratively with practitioners to develop and refine strategies that make a real difference to teaching and learning in the classroom.

Kris Stutchbury is a Senior Lecturer in Education and Director of the PGCE course at the Open University. She has 20 years of experience of teaching in school and was Head of Science for 12 years. Kris's interests include ethics, assessment and approaches to educational change.

Keith S. Taber is a Professor of Science Education at the Faculty of Education, University of Cambridge. He qualified as a teacher of chemistry and physics in 1982. He taught science in comprehensive schools, and developed an interest in classroom research when he registered for a diploma course for science teachers. He undertook an action research project on girls' under-representation in physics in a school where he taught for his Master's degree dissertation. After moving into further education as a physics and chemistry lecturer, he registered for part-time doctoral study, exploring how his students' ideas developed during their college course. After completing his doctorate, Keith joined the Faculty of Education, Cambridge University, where he works with those preparing to be teachers, with experienced teachers enquiring into aspects of teaching and learning, and with research students training to be educational researchers. He is the author of *Classroom-Based Research and Evidence-Based Practice: A Guide for Teachers* (2007).

Paul Warwick is a Senior Lecturer in Education at the Faculty of Education, University of Cambridge. He is a member of the Early Years and Primary Master's PGCE team, focusing on courses in science, Information Computer Technology (ICT) and dialogic teaching.

Mark Winterbottom is a Senior Lecturer in Science Education at the Faculty of Education, University of Cambridge. He previously taught in secondary schools. He teaches on undergraduate and Master's programmes, including the Postgraduate Certificate of Education and the Science MEd course. His current research interests include teacher education, ICT and the classroom environment. He is the author of *The Non-Specialist Handbook: Teaching Biology to Key Stage 4* (2000), and co-editor with Paul Warwick and Elaine Wilson of *Teaching and Learning Primary Science with ICT* (2006).

CONTENTS

<i>Foreword</i>	xiii
<i>About the editor</i>	xv
<i>Notes on contributors</i>	xvi
<i>Companion website</i>	xix
 Introduction: why should teachers do school-based research?	 1
Types of knowledge about teaching and learning	1
Reflecting as learning	4
Researching practice	4
Creating new knowledge about teaching and learning	6
Teachers creating new knowledge about teaching and learning	8
How this book will help	8
The structure of the book	9
 Section 1 Using existing research to understand and plan school-based research	 11
 1 Becoming a reflexive teacher	 13
<i>Elaine Wilson</i>	
Teaching is about interaction	14
Educational discourse	15
Becoming a reflexive teacher	15
Challenging 'common-sense' ideas	16
Using existing research literature	18
Critical reading activity	18
Final thoughts on reflexive teaching	21
Key ideas	22
Reflective questions	22
Further reading	22

2 Refining the focus for research and formulating a research question	23
<i>Elaine Wilson</i>	
Introduction	23
Formulating the research question	25
Research purpose: why are you doing the research?	27
Looking at expert researchers' questions	30
Further examples of classroom-based research projects	31
The M-levelness of PGCE work	33
Key ideas	37
Reflective questions	40
Further reading	40
3 Reviewing the literature and writing a literature review	41
<i>Elaine Wilson</i>	
Introduction	41
What is the purpose of reviewing the literature?	42
Stages of reviewing the literature	43
Finding literature	44
What is appropriate literature?	45
Setting search parameters	49
Published meta-analysis literature reviews	50
Managing literature	53
Efficient reading	54
Selecting articles for careful study	55
Critical reading	56
Writing a literature review	59
Key ideas	61
Reflective questions	62
Further reading	62
Section 2 Planning school-based research	63
4 Research design	65
<i>Elaine Wilson</i>	
Introduction	65
Which research approach will you use?	66
Key questions to consider when planning research	66
Which methodology is useful for school-based research?	77
Other methodologies	78
Key ideas	79

Reflective questions	80
Further reading	80
Weblinks	81
5 Ethics in educational research	82
<i>Kris Stutchbury</i>	
Introduction	82
What is 'an ethical issue'?	84
Introducing an ethical framework	85
Some general observations about using this approach to ethics	91
Key ideas	93
Reflective questions	94
Further reading	95
Weblink	95
6 What is educational action research?	96
<i>Elaine Wilson</i>	
Origins of action research	96
Action research as a form of practitioner enquiry	97
The purposes of action research	100
The field and domains of action research	101
Key ideas	105
Reflective questions	106
Further reading	106
7 How to do action research	107
<i>Elaine Wilson</i>	
Making the commitment to enquiry	107
How do teachers do action research?	108
The action research cycle	112
A further example of a teacher doing action research	113
Challenging your interpretations	115
Assessing the quality of action research	117
Ensuring that your own work is rigorous and valid	118
Key ideas	122
Reflective questions	122
Further reading	123
8 The case study	124
<i>Helen Demetriou</i>	
Introduction	124
What is a case study?	125

A short history of the case study	126
The case study: from criticism and misconception to recognition and appreciation	126
Designing case studies	128
Types of case studies	128
Conducting case study research: tips for the case study researcher	129
The use of case studies in education	133
Key ideas	136
Reflective questions	137
Further reading	137
Weblink	138
9 Building theory from data: grounded theory	139
<i>Keith S. Taber</i>	
What is 'grounded' theory?	140
Examples of educational studies drawing on GT	140
Data and theory	141
Confirmatory versus exploratory studies	142
Characteristics of grounded theory	144
What are grounded theory 'methods'?	144
Induction: the context of discovery	144
Post-inductive resonance?	145
An overview of the grounded theory approach	146
Immersion and emergence	147
Core variables and theoretical saturation	148
Difficulties of a GT approach in student projects	149
The substantive and the general: testing the theory	150
Borrowing from GT	151
Key ideas	152
Reflective questions	152
Further reading	153
Weblink	153
10 Research with younger children: issues and approaches	154
<i>Paul Warwick and Roland Chaplain</i>	
Introduction	154
Researching pupil perspectives	157
Getting started	158
Interviews	162
Questionnaires and standardized instruments	166
Visual tools and methods	169
Key ideas	171

Reflective questions	172
Further reading	172
Section 3 Data collection	173
11 Data collection	175
<i>Elaine Wilson</i>	
Deciding on data collection methods	175
Recording events: using a research diary	177
Planning the data collection process	178
Reducing threats to the validity and reliability of your data collection methods	180
Recording what is happening	182
Supporting and supplementing observation	187
Asking people about what is going on	188
Other sources of evidence	194
Key ideas	200
Reflective questions	200
Further reading	200
12 Reliability and validity in qualitative research by teacher researchers	202
<i>Michael Evans</i>	
Introduction	203
What is qualitative research?	204
Reliability	206
Validity	208
Triangulation	211
Looking for negative evidence	213
Conclusion: thinking about reliability and validity in relation to your own project	214
Key ideas	215
Reflective questions	215
Further reading	216
13 Taking a quantitative approach	217
<i>Mark Winterbottom</i>	
Introduction	217
Ideas and definitions	218
Quantitative approaches to research	222
Looking at other people's data	228

Key ideas	236
Reflective questions	237
Further reading	237
Weblink	238

Section 4 Data analysis and presentation 239

14 Handling data 241

Elaine Wilson

Introduction	241
Keeping your eye on the main game	242
Setting up an organized storage system	243
Analysing and interpreting data	244
Analysing images	258
Key ideas	258
Reflective questions	259
Further reading	259
Weblinks	259

15 Analysing qualitative data 260

Michael Evans

The form of qualitative data	260
The blurred line between data collection and analysis	261
Deductive and inductive orientations in qualitative analysis	265
Key ideas	272
Reflective questions	273
Further reading	273
Weblinks	273

16 Analysing quantitative data 274

Ros McLellan

Introduction	274
The example database	276
Creating a database in SPSS	277
Data analysis: generating descriptive statistics	279
Data analysis: inferential statistics	285
Concluding comments	289
Key ideas	289
Reflective questions	290
Appendix 16.1	291
Further reading	294

17 Writing about research 295

Elaine Wilson

Getting started	295
Composing your essay or thesis	297
Structuring your work	298
The main body of the work	300
Reviewing what you have done	307
Revising your work	308
Key ideas	310
Reflective questions	310
Further reading	311
Weblink	311

18 Disseminating research, blogs and social media 312

Elaine Wilson

Sharing research knowledge	312
Turning your thesis into a paper	313
Key ideas	318
Reflective questions	318
Further reading	318
Weblinks	319

Section 5 Paradigms 321

19 Beyond positivism 323

Keith S. Taber

What is a paradigm?	323
The nature of paradigmatic commitments in educational research	324
The nature of ability	325
An ontological question: What kind of thing is bullying?	327
Why is it important for researchers to take up a position on such issues?	328
Educational research paradigms	329
Two problems for a positivistic educational science	330
Three problems for a positivist natural science	332
A post-positivist notion of 'science' (that can include education)	336
Post-positivist scientific research takes place within a research programme	337
Key ideas	339
Reflective questions	340
Further reading	340

20 Interpretivism: meeting our selves in research 341*Christine Counsell*

Introduction: three teachers	342
Commentary on the three teachers	343
Rethinking subjectivity	346
The emergence of an interpretivist paradigm	351
Symbolic interactionism	353
Symbolic interactionism meets ethnography	355
Phenomenology	359
Hermeneutics	363
Key ideas	366
Reflective questions	367
Further reading	368

Conclusion 369

<i>Glossary</i>	371
-----------------	-----

<i>References</i>	374
-------------------	-----

<i>Index</i>	385
--------------	-----

Words in **bold** type in the text denote Glossary entries when first mentioned.