

**RESEARCH
METHODS
IN
EDUCATION**

THIRD EDITION

**LOUIS COHEN
AND
LAWRENCE MANION**

Research Methods in Education

THIRD EDITION

Louis Cohen

and

Lawrence Manion



First published 1980
by Croom Helm Ltd.
Reprinted 1981, 1982 and 1984

Second edition 1985
Reprinted 1986 and 1987
Reprinted by Routledge 1989

Third edition published 1989
by Routledge
11 New Fetter Lane, London EC4P 4EE

Simultaneously published in the USA and Canada
by Routledge
a division of Routledge, Chapman and Hall, Inc.
29 West 35th Street, New York, NY 10001

Reprinted 1990

© 1980, 1985, 1989 Louis Cohen and Lawrence Manion

Typeset by Leaper & Gard Ltd, Bristol, England
Printed in Great Britain by
Mackays of Chatham PLC, Chatham, Kent

All rights reserved. No part of this book may be reprinted or reproduced or utilized in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

British Library Cataloguing in Publication Data

Cohen, Louis, 1928-

Research methods in education. — 3rd ed.

I. Education. Research. Methodology

I. Title II. Manion, Lawrence

370'.7'8

ISBN 0-415-04410-3

Library of Congress Cataloging in Publication Data
has been applied for

List of Boxes and Figures

Boxes

1.1	The Subjective–Objective Dimension	9
1.2	Alternative Bases for Interpreting Social Reality	11
1.3	The Functions of Science	15
1.4	The Hypothesis	19
1.5	Stages in the Development of a Science	21
1.6	Does Watching Aggression on TV Cause Kids to Become Aggressive?	23
1.7	A Classroom Episode	29
1.8	An Account in Episode Analysis	30
1.9	Disrupting Social Order	34
1.10	Differing Approaches to the Study of Behaviour	40
2.1	Specific Competencies to be Developed through Instruction in the History of Education	50
2.2	Some Historical Interrelations Between Men, Movements and Institutions	50
2.3	An Example of a Historical Study in Education	53
2.4	A Brief Checklist of Some Dimensions of ‘Bias’	58
2.5	Criteria for Evaluating Historical Research	61
2.6	The Purposes of Content Analysis	63
2.7	Jan Kukielka, in America, to his Wife in Poland, December 30th, 1913	64
2.8	N’ach Levels in English Literature 1550–1800 Compared with Coal Imports into London Fifty Years Later	65
2.9	Silver Street Academy	66
2.10	Development of Teacher Education Courses for Women at University College, Cardiff	66
2.11	The Student Hostel	67

3.1	Types of Developmental Research	74
3.2	Advantages of Cohort over Cross-sectional Designs	75
3.3	Attrition in Sample over the 8-year Period of the Study	81
3.4	Attainment and Adjustment in Disadvantaged and Control Group Children at Ages 11+ and 15+ Years	82
3.5	In-group, Out-group Actual Friendship Choices by Age and Ethnic Group	84
3.6	In-group, Out-group Desired Friendship Choices by Age and Ethnic Group	85
3.7	Mean Scores on Each Attitude Scale by Age and by Ethnic Group	86
3.8	Class Composition of Interviewed Sample Compared with Expected Composition of Unstratified Sample	89
3.9	Losses and Additions at Each Stage of the Study from 1 Year Through to 16 Years of Age	90
3.10	Previous and Projected Figures of Pupil Numbers in England and Wales	91
3.11	The Decline in Numbers of Pupils Aged 5 and Over in Maintained Primary and Secondary Schools, 1976 to 1986: England and Wales	93
3.12	Projected Percentage Declines in the Numbers of Pupils in Maintained Primary and Secondary Schools, 1976 to 1986: England and Wales	94
4.1	Stages in the Planning of a Survey	98
4.2	Distribution of Sample Means Showing the Spread of a Selection of Sample Means Around the Population Mean	105
4.3	A Flow Chart Technique for Question Planning	107
4.4	A Guide for Questionnaire Construction	110
4.5	A Flow Chart for the Planning of a Postal Survey	115
4.6	A Study of Stealing	118
4.7	Truancy	120
4.8	Truants' Accounts of School	121
4.9	Perceived Help from Teachers	122
5.1	A Typology of Observation Studies	126
5.2	Steps in Participant Observation	130
5.3	Field Notes in Observation Studies	131
5.4	A Structured Observation Schedule for the Classroom	132
5.5	The Case Study and Problems of Selection	134

5.6	The School as a Social System	138
5.7	The Effects of Boarding on Emotional and Sexual Life	140
5.8	Lesson Profiles in Primary Classrooms	145
5.9	Lesson Profiles in Secondary Classrooms	146
5.10	Case Study Extract on Chris, a Severely Disturbed Adolescent	147
5.11	Changes Between John's Past and Current Identifications with West Indian and English People	148
5.12	Possible Advantages of Case Study	150
6.1	Common Measures of Relationship	155
6.2	Correlation Scatter Diagrams	159
6.3	Visualisation of Correlation of 0.65 Between Reading Grade and Arithmetic Grade	167
6.4	The Correlations Between a Preference for Violent Television and Peer-rated Aggression for 211 Boys over a 10-year Lag	172
7.1	Factors Associated with Failure at University	179
7.2	Some Procedures for Introducing Measures of Control into <i>Ex Post Facto</i> Research Designs	188
7.3	Relationship Between Mean A-Level Attainment and Number of Timetable Hours' Instruction in Twelve Subject Matter Areas	190
8.1	The Effects of Randomisation	197
8.2	The ABAB Design	211
8.3	An ABAB Design in an Educational Setting	211
8.4	Class Size and Learning	213
9.1	Humanities Curriculum Project–Aim and Premisses	221
9.2	Aspirations of Teacher Researchers and Non-Teacher Researchers in Action Research	222
9.3	Teachers as Researchers	222
9.4	Action Research in Classroom and School	224
9.5	The Ideal Teacher for an Integrated Studies Project	225
9.6	Metaphors Reflecting Teachers' Perceptions of a Curriculum Project	228
9.7	Teachers' Reactions to Change and Improvement	230
9.8	The Objectives of the Evaluation Unit in the Humanities Curriculum Project	233
9.9	Requirements for the Adoption of Research Findings on the Part of Teachers	237

9.10	Research Action Group in English	238
10.1	Principles in the Ethogenic Approach	243
10.2	Accounts of a Social Episode: House Purchase	245
10.3	Account Gathering	246
10.4	Experience Sampling Method	247
10.5	'Competence' in the Comprehensive Classroom	250
10.6	Network Analysis: Pupils' Views of their Teachers	252
10.7	Bottles, Ships and Hidden Construction	254
10.8	Students' Perceptions of Social Episodes	257
10.9	Perception of Social Episodes	258
10.10	Person Concept Coding System	259
10.11	'Ain't nobody can talk about things being about themselves'	262
10.12	Parents and Teachers: Divergent Viewpoints on Children's Communicative Competence	263
10.13	An Ethnographic Account of a School Carnival	264
10.14	Justification of Objective Systematic Observation in Classroom Settings	265
11.1	A Teacher's Attitude to his Role	271
11.2	The Principal Types of Triangulation Used in Research	272
11.3	A Multimethod Approach to the Study of Two Top-junior Classes	276
11.4	Kinds of Information Sought and Methods for Obtaining Them	279
11.5	Extract from the Researcher's Interview with Pupils	282
11.6	Sample Interview from Triangulated Study	285
12.1	Dimensions of Role-play Methods	288
12.2	Developing Empathising Skills	289
12.3	The Stanford Prison Experiment	290
12.4	Obedience to Authority: an Explanation	293
12.5	Milgram's Experiment: an Alternative Explanation	294
12.6	A Flow Chart for Using Role-play	298
12.7	Critical Factors in a Role-play: Smoking and Young People	299
13.1	Summary of Relative Merits of Interviewing Versus Questionnaire	308
13.2	Attributes of Ethnographers as Interviewers	310
13.3	The Selection of Response Mode	322
13.4	Units of General Meaning	330

13.5	Units of Relevant Meaning	331
13.6	Clusters of Relevant Meaning	332
13.7	Reasons for Subject Choice	333
13.8	Sample Questions Used in an Ethnographic Study in an Australian State High School	334
14.1	Eliciting Constructs and Constructing a Repertory Grid	338
14.2	Allotting Elements to Constructs: Three Methods	341
14.3	Laddering	343
14.4	Hierarchical Linkage Analysis Applied to Grid Data	351
14.5	Mrs C's Model of the Manner in which Children Learn	354
15.1	Rank Ordering of Ten Children on Seven Constructs	361
15.2	Intercorrelations Between Seven Personal Constructs	363
15.3	The Structuring of Relationships Among the Seven Personal Constructs	364
15.4	Central Profiles at 12-cluster Levels	366
15.5	The Deputy Head Role Definition Instrument	370
15.6	Deputy Head Role Definition Instrument Loadings on Ten Promax Factors	371
15.7	Matrix of Correlations Among Ten First Order Factors	372
15.8	Item Loadings on Second Order Factors	373
15.9	Sex, Voting Preference and Social Class: a Three-way Classification Table	375
15.10	Sex, Voting Preference and Social Class: a Three-way Notational Classification	375
15.11	Expected Frequencies in Sex, Voting Preference and Social Class	378
15.12	Expected Frequencies Assuming that Sex is Independent of Social Class and Voting Preference	381
15.13	Sex and Voting Preference: a Two-way Classification Table	382

Figures

14.1	Elements	345
14.2	Difference Score for Constructs	346
14.3	Grid Matrix	346

List of Journals Abbreviated in Text

American Educational Research Journal
American Journal of Psychology
American Journal of Sociology
American Psychologist
Behaviour Research and Therapy
British Educational Research Journal
British Journal of Educational Psychology
British Journal of Medical Psychology
British Journal of Psychiatry
British Journal of Psychology
British Journal of Social and Clinical Psychology
Cambridge Journal of Education
Durham Research Review
Education
Education and Psychological Measurement
Educational Research
Educational Studies
Human Development
International Journal of Criminology and Penology
Journal of Child Psychology and Psychiatry
Journal of Educational Psychology
Journal of Educational Sociology
Journal of Experimental Education
Journal of Experimental Social Psychology
Journal of Personality and Social Psychology
Journal for the Theory of Social Behaviour
Perceptual and Motor Skills
Psychological Bulletin
Research in Education
Sagset Journal
Sociological Review
Sociology
Trends in Education

Authors' Note to the Third Edition

The opportunity afforded by our Publishers to make a number of additions and changes to the second edition of *Research Methods in Education* was too good to miss.

We have added new sections to several chapters and rewritten others. In particular, a section on *validity* has been added to Chapter 4 (*Surveys*), an outline of *meta-analysis in educational research* is included in Chapter 8 (*Experiments: Quasi-Experiments and Single-Case Research*) and a discussion of *discourse analysis* extends the Chapter on *Accounts* (Chapter 10).

In addition we have brought to readers' notice a range of recent research publications by updating the references and notes in most of the fifteen chapters that comprise the text.

Louis Cohen
Lawrence Manion

Acknowledgements

We should like to record our sincere thanks to colleagues at Loughborough University of Technology for their comments on initial drafts of several chapters and for their suggestions on a variety of materials for inclusion in the text. We are particularly grateful to Derek Blease, Keith Hodgkinson, Mike Holliday, Jim Hough, Morry van Ments, John Mundy, Alan Radley, Cyril Simmons, Don Smedley, John Thomas and Zena Stansbie. We should also like to thank Holt, Rinehart and Winston for permission to draw on Chapter One of *Perspectives on Classrooms and Schools* by the present authors.

Our special thanks go to Dora Durbidge for the indefatigable way in which she located sources of crucial information that otherwise would have escaped our notice.

Any omissions or mistakes we readily attribute to each other.

Our thanks are due to the following publishers and authors for permission to include materials in the text:

- Wadsworth Publishing Co. Inc., Belmont, Calif.* Notes in **Box 5.3** p. 131 from Lofland, J., *Analysing Social Settings* (1971)
- American Psychological Association, Washington D.C.* **Box 6.4** p. 172 from Eron, L.D. *et al.*, *American Psychologist* (April 1972) 253-63
- Box 10.8** p. 257 from Forgas, J.P., *Journ. Pers. and Soc. Psychol.*, 34, 2 (1976) 199-209
- Box 10.10** p. 259 from Peevers, B.H. and Secord, P.F., *Journ. Pers. and Soc. Psychol.*, 27, 1 (1973) 120-8
- Open Books, London* **Box 15.4** p. 366 from Bennett, N., *Teaching Styles and Pupil Progress* (1975)
- Box 5.4** pp. 132 and 133 from Rutter M. *et al.*, *Fifteen Thousand Hours* (1979)
- Box 2.1** p. 50 from Good, C.V., *Essentials of Educational Research* (1963)
- Academic Press, New York, N.Y.* **Box 10.9** p. 258 from Forgas, J.P., *Journ. Exp. Social Psychol.*, 14, (1978) 434-48
- Associated Book Publishers Ltd., London* **Box 14.3** p. 343 from Fransella, F., *Need to Change?* (1975)
- Box 12.4** p. 293 from Brown, R. and Herrnstein, R.J., *Psychology* (1975)
- Addison-Wesley Publishing Co., Reading, Mass.* **Box 2.6** p. 63 from Holsti, O.R. in *The Handbook of Social Psychology, Vol. 2, Research Methods* (1968) 604
- Routledge and Kegan Paul Ltd., London* Words, pp. 79-85 and **Box 3.8** p. 89 from J. and E. Newson, in M.D. Shipman, *The Organisation and Impact of Social Research* (1976)
- Dr R. W. Shields*, **Box 5.10** p. 147
- Harcourt Brace Jovanovich, Inc., New York, N.Y.* **Box 6.2** p. 159 and **Box 13.1** p. 308 from Tuckman, B.W., *Conducting Educational Research* (1969)
- C.B.S. International Publishing, New York, N.Y.*

Acknowledgements

- Box 5.8** p. 145 and **Box 5.9** p. 146 from Adams, R.S. and Biddle, B.J., *Realities of Teaching* (1970)
- Box 4.4** p. 110 from Selltitz, C. *et al.*, *Research Methods in Social Relations* (1976)
- Pergamon Press Ltd., Oxford **Box 14.4** p. 351 from Ravenette, A.T., *Journ. Child Psychol. and Psychiat.*, 16 (1975) 79–83
- Weidenfeld Publishers Ltd., London **Box 5.6** p. 138, **Box 5.7** p. 140 and part of questionnaire pp. 138–9 from Lambert, R. *et al.*, *The Chance of Lifetime?* (1975) and Lambert, R. *et al.*, *A Manual to the Sociology of the School* (1970)
- Harper and Row Publishers, London **Box 15.1** p. 361, **Box 15.2** p. 363, **Box 15.3** p. 364
- National Foundation For Educational Research, Windsor **Box 3.5** p. 84, **Box 3.6** p. 85 from Jelinek, M.M. and Brittan, E.M., *Educational Research*, 18, 1 (1975) 44–53, and *Educational Research*, 19, 2(1977) 129–41
- Box 10.14** p. 247 from McAleese, R. and Hamilton, D., *Understanding Classroom Life* (1978)
- Methuen & Co., London Words from Shipman, M.D., *Inside a Curriculum Project* (1974)
- Scottish Academic Press Ltd., Edinburgh **Box 15.5** p. 370, **Box 15.6** p. 371, **Box 15.7** p. 372 from Coulson, A.A., *British Journ. Educat. Psychol.*, 46 (1976) 244–52
- Manchester University Press, Manchester **Box 7.3** p. 190 from Christie, T. and Oliver, R.A.C., *Research in Education*, 2 (1969) 13–31
- The Open University, Milton Keynes Words from Pilliner, A., *Experiment in Educational Research*, E 341, Block 5 (1973)
- Academic Press Inc. London **Box 14.2** p. 341 from Bannister, D. and Mair, J.M.M., *The Evaluation of Personal Constructs* (1968)
- Hodder and Stoughton Educational, Sevenoaks **Box 9.1** p. 221, **Box 9.8**p. 223 from Butcher, H.J. and Pont, H.B., *Educational Research in Britain* 3 (1973)
- Her Majesty's Stationery Office, London **Box 3.10** p. 91 from *Annexe I: D.E.S. A Study of School Buildings* (1977)
- Countryside Commission, Cheltenham **Box 4.1** p. 98 from David-

son, J., *Outdoor Recreation Surveys: The Design and Use of Questionnaires for Site Surveys* (1970)

Heinemann Educational Books Ltd., London p. 111–13 and **Box 4.5** p. 115 from Hoinville, G. and Jowell, R., *Survey Research Practice* (1978)

Foreword

There are three common types of books on research methods. The first leads the reader through the stages of research as if there was a mechanical sequence that, if followed, arrives invariably at reliable and valid evidence. The second type supports one approach in opposition to others. Here the reader is made aware that there are a variety of approaches and that there is disagreement over their relative virtues. But there is still an attempt to sell one of many possible ways of collecting evidence. The third type of book introduces the reader to the variety of research methods without taking sides. In all three types of book, the intended audience is the minority who undertake research.

There are a few books of a fourth type which can introduce research methods not only to those who will become researchers, but to the majority who will use the evidence produced.

Louis Cohen and Lawrence Manion have added to the small number of books that can serve both researchers and consumers of research evidence. A wide range of methods used in education are presented and these include both traditional and more recent approaches. The book is striking for its breadth, wealth of examples and balanced content. This balance is obtained by describing the method, providing examples and commenting on strengths and weaknesses. It is written in an engagingly straightforward style. Above all, it should provide an excellent introduction to the rich variety on the research menu!

Marten Shipman
Professor of Education
University of Warwick

Contents

List of Boxes and Figures	xi
List of Journals Abbreviated in Text	xvi
Acknowledgements	xviii
Foreword: Professor Marten Shipman	xxii
1 Introduction: the Nature of Inquiry	1
The Search for Truth	1
Two Conceptions of Social Reality	6
Positivism	10
The Assumptions and Nature of Science	13
The Tools of Science	17
The Scientific Method	20
Criticisms of Positivism and the Scientific Method	23
Alternatives to Positivist Social Science	27
Phenomenology, Ethnomethodology and Symbolic Interactionism	31
Criticisms of the Newer Perspectives	36
A Problem of Terminology: the Normative and Interpretive Paradigms	37
Methods and Methodology	41
Conclusion: the Role of Research in Education	42
2 Historical Research	47
Introduction	47
Choice of Subject	51
Data Collection	54
Evaluation	56
Writing the Research Report	59
The Use of Quantitative Methods	60
Examples of Historical Research in Education	63

3	Developmental Research	70
	Introduction	70
	The Terminology of Developmental Research	71
	Strengths and Weaknesses of Cohort and Cross-sectional Studies	72
	Strategies in Developmental Research	76
	Examples of Developmental Research	76
	Example 1: A Large-scale Cohort Study	76
	Example 2: A Small-scale Cohort Study	79
	Example 3: A Cross-sectional Study	81
	Example 4: A Cohort/Cross-sectional Design	87
	Example 5: A Trend or Prediction Study	90
4	Surveys	97
	Introduction	97
	Some Preliminary Considerations	99
	Survey Sampling	101
	Sample Size: an Overview	104
	Sampling Error	105
	Designing the Self-completion Questionnaire	106
	Postal Questionnaires	109
	Processing Survey Data	116
	Survey Research in Education: Two Examples	118
5	Case Studies	124
	Introduction	124
	The Case Study	124
	Why Participant Observation?	128
	Recording Observations	130
	Educational Case Study Examples	131
	Cell 1: Wolcott — The Man in the Principal's Office	134
	Cell 2: Lambert <i>et al.</i> — The Chance of a Lifetime?	137
	Cell 3: King — All Things Bright and Beautiful?	141
	Cell 4: Adams and Biddle — Realities of Teaching	143
	Cell 5: Shields — A Cure of Delinquents	146
	Cell 6: Weinreich — Cross-ethnic Identification and Self-rejection in a Black Adolescent	148
	Conclusion	151
6	Correlational Research	154
	Introduction	154